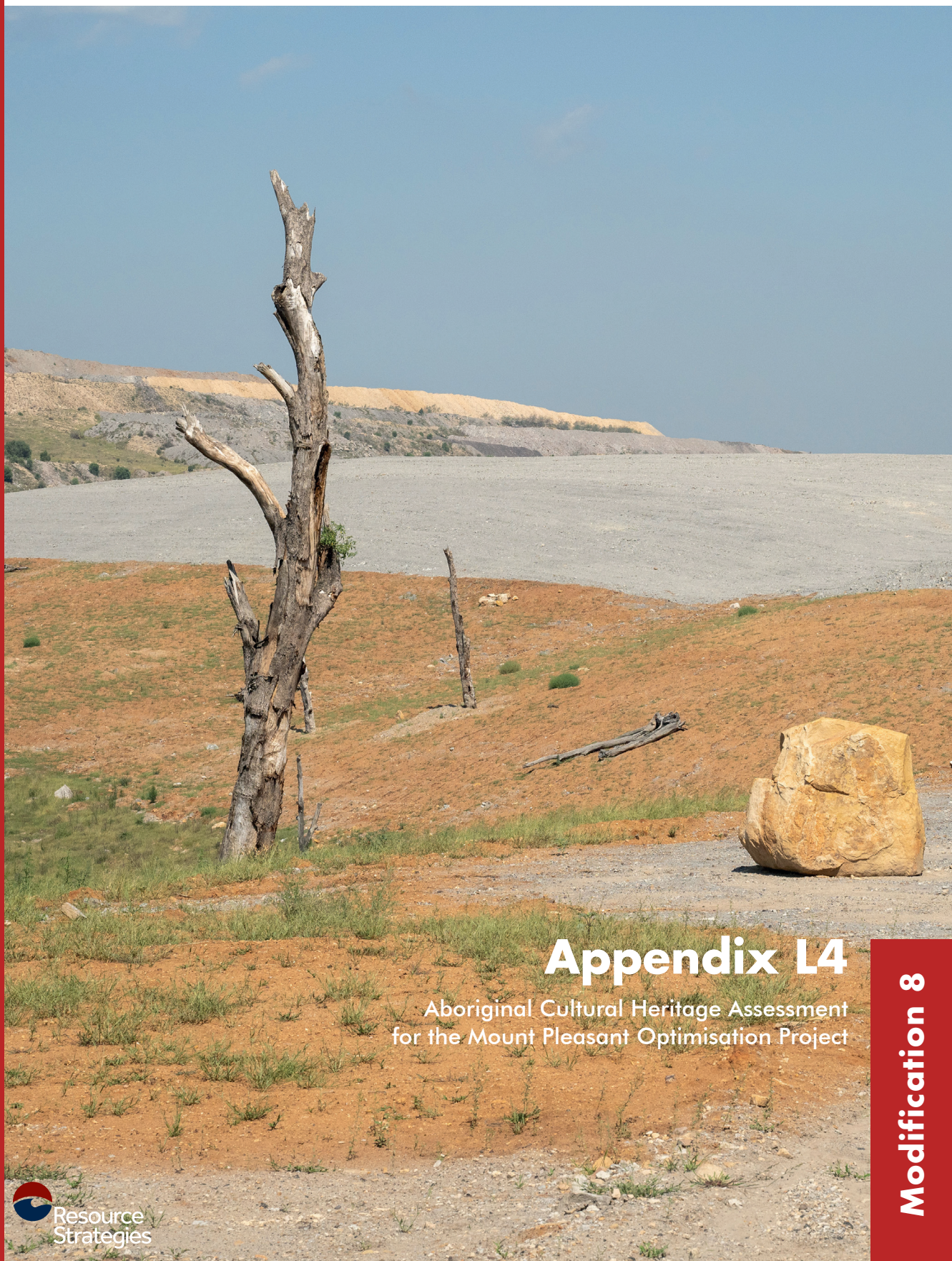
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Appendix L4

Aboriginal Cultural Heritage Assessment for the Mount Pleasant Optimisation Project

Modification 8

Resource Strategies

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Mount Pleasant Optimisation Project, Hunter Valley, New South Wales: State Significant Development Application - Aboriginal Cultural Heritage Assessment – Addendum Report to Assess Minor Amendments

Prepared by:

Peter Kuskie,
South East Archaeology Pty Ltd

10 December 2020

South East Archaeology has completed an Aboriginal Cultural Heritage Assessment Report (ACHAR) for a State Significant Development (SSD) Application for the proposed Mount Pleasant Optimisation Project:

> *Mount Pleasant Optimisation Project, Hunter Valley, New South Wales: State Significant Development Application - Aboriginal Cultural Heritage Assessment* (Kuskie 2020).

Subsequent to completion of this report, minor amendments to components of the Project have been made. These amendments are assessed herein in relation to Aboriginal cultural heritage.

This report is intended as an Addendum to the primary ACHAR (Kuskie 2020) and should be read in conjunction with the ACHAR. This Addendum report does not seek to repeat information contained within the ACHAR.

Approximate Extent of Project Open Cut and Waste Rock Emplacement Landforms:

Very minor changes (including some extensions and some reductions) of the approximate extent of the Project Open Cut and Waste Rock Emplacement Landforms area are noted between the current version and that assessed for the ACHAR (Kuskie 2020).

No material change is applicable to any Aboriginal site recommendations (as contained with Appendix 7 of the ACHAR, Kuskie 2020) as any Aboriginal sites no longer within or now within this area have already been subject to heritage salvage under the existing approval and no further action is required.

Existing Approved Surface Development Area (Revision F):

Minor changes to the Existing Approved Surface Development Area are noted between the current version (Revision F) and that assessed for the ACHAR (Kuskie 2020). These changes relate to the inclusion of narrow linear corridors in the current existing approved area, that had not previously been identified for the assessment.

The corridors include one in the Bengalla Mine Approved Disturbance Boundary, south of Wybong Road. Within this corridor, several Aboriginal sites (AHIMS #37-2-2090, 37-2-4448, 37-2-4450 and MTP-1712) are located. In the ACHAR, these sites were identified as being within the SSD Zone C, however the updated information means that they can now correctly be described as being located within SSD Zone A1 (refer to updated details in Table 1 that inform amendments to Appendix 7 of the ACHAR).

No material change is applicable to any of these Aboriginal site recommendations (as contained with Appendix 7 of the ACHAR, Kuskie 2020) as the Aboriginal sites now within this Existing Approved Surface Development Area have already been subject to heritage salvage under existing approvals or in the case of MTP-1712, a possible scarred tree, the current recommended strategy remains valid (refer to Table 1).

A second narrow linear corridor extends north in the MPO from Wybong Road to the vicinity of Dorset Road. Within this corridor, several Aboriginal sites are located (as listed in Table 2). In the ACHAR, these sites were identified as being within SSD Zone C, however the updated information means that they could now be described as being located either wholly or partially within SSD Zone A1 or Zone A2 (refer to updated details in Table 2 below that inform amendments to Appendix 7 of the ACHAR). However, due to a revision also occuring after completion of the ACHAR to the Approximate Disturbance Area to be Relinquished (refer to discussion below), all of these sites apart from #37-2-1447 and 37-2-3443 are now actually situated in SSD Zones A1R - C or A2R - C (to be relinquished), hence appropriate updates have been applied to these sites in Table 2. Almost all of the sites have reverted back to their previously assessed SSD Zone C.

No material change is applicable to many of these Aboriginal site recommendations (as contained with Appendix 7 of the ACHAR, Kuskie 2020) as the Aboriginal sites now within this Existing Approved Surface Development Area or the Approximate Disturbance Area to be Relinquished have already been subject to heritage salvage under existing approvals (refer to Table 2).

There is no change to the recommended management strategy for one site (#37-2-1447) now identified as being situated partially within Zone A3 (not subject to previous heritage survey, but covered by an approved AHIP).

Northern Link Road Option 1:

As identified within the ACHAR (Kuskie 2020), alternative options may be sought for the Northern Link Road. Two such options have subsequently been proposed, including Option 1.

Much of Option 1 remains as assessed during the ACHAR, particularly the eastern section. However, the variation in the western portion of the alignment, if approved and implemented, would mean that impacts would be reduced to four Aboriginal sites (#37-2-1906, 37-2-5945, MP17 and MP24) as listed in Table 3, compared to the alignment assessed within the ACHAR (Kuskie 2020). However, as these four sites would now be located within SSD Zone C, the potential for other minor future disturbance cannot be excluded and the potential impacts and site management strategies can therefore be amended as outlined in Table 3.

If Option 1 is approved and implemented, impacts would increase to two Aboriginal sites (MP14 and MP23), as listed in Table 4, compared to the alignment assessed within the ACHAR (Kuskie 2020). The potential impacts and site management strategies can therefore be amended as outlined in Table 4.

Northern Link Road Option 2:

As identified within the ACHAR (Kuskie 2020), alternative options may be sought for the Northern Link Road. Two such options have subsequently been proposed, including Option 2.

Much of Option 2 remains as assessed during the ACHAR, particularly the eastern section. However, the variation in the western portion of the alignment, if approved and implemented, would mean that impacts would be reduced to five Aboriginal sites (#37-2-1906, 37-2-5945, 37-2-5946, MP17 and MP24) as listed in Table 5, compared to the alignment assessed within the ACHAR (Kuskie 2020). However, as these five sites would now be located within SSD Zone C, the potential for other minor future disturbance cannot be excluded and the potential impacts and site management strategies can therefore be amended as outlined in Table 5.

If Option 2 is approved and implemented, impacts would increase to 11 Aboriginal sites (#37-2-3759, 37-2-3760, 37-2-3761, 37-2-3762, 37-2-3764, 37-2-3765, 37-2-3822, 37-2-3823, 37-2-3824, 37-2-3829 and 37-2-3830), as listed in Table 6, compared to the alignment assessed within the ACHAR (Kuskie 2020). The potential impacts and site management strategies can therefore be amended as outlined in Table 6. All of these are small open artefact sites assessed by Scarp (2009) as being of low heritage significance.

Infrastructure Area Envelope:

Very minor changes (including some extensions and some reductions) of the approximate extent of the Infrastructure Area Envelope are noted between the current version and that assessed for the ACHAR (Kuskie 2020).

No material change is applicable to any Aboriginal site recommendations (as contained with Appendix 7 of the ACHAR, Kuskie 2020) as any Aboriginal sites no longer within or now within this area have already been subject to heritage salvage under the existing approval and no further action is required, or had already been assessed as SSD Zone C (in the case of Site 79) with no change to the impact zone or management strategy.

Approximate Disturbance Area to be Relinquished:

Minor changes (including some extensions and some reductions) of the extent of the Approximate Disturbance Area to be Relinquished are noted between the current version and that assessed for the ACHAR (Kuskie 2020).

The Aboriginal sites which may be subject to a decrease in impacts from that assessed in the ACHAR (Kuskie 2020) are reassessed here in Table 7. There are 12 sites in total, that change from an impact zone (SSD Zone A1 or A2) to SSD Zone C, in which the potential for other minor future disturbance cannot be excluded and therefore the potential impacts and site management strategies can be amended as outlined in Table 7. Five of these sites have already been subject to heritage salvage under the existing approval and no further action is required.

The Aboriginal sites which may be subject to an increase in impacts from that assessed in the ACHAR (Kuskie 2020) are reassessed here in Table 8. There are 10 sites in total, that change from an impact zone (SSD Zone A2R - C) to SSD Zone A2. Although these sites are likely to be subject to impacts, the change from the SSD Project is effectively nil as all of the sites were located within the existing approved impact area. The potential impacts and site management strategies can be amended as outlined in Table 8.

Approximate Additional Disturbance of Project Extensions:

Minor changes (including some extensions and some reductions) of the approximate extent of the Additional Disturbance of Project Extensions are noted between the current version and that assessed for the ACHAR (Kuskie 2020), largely relating to the Northern Link Road.

The Aboriginal sites which may be subject to an increase in impacts from that assessed in the ACHAR (Kuskie 2020) comprise #37-2-3264 and #37-2-3266, both in the vicinity of a minor change around a proposed dam. Both of these sites have been subject to heritage salvage and there is no material change applicable to any Aboriginal site recommendations (as contained with Appendix 7 of the ACHAR, Kuskie 2020).

The nine Aboriginal sites which may be subject to a decrease in impacts from that assessed in the ACHAR (Kuskie 2020) are reassessed here in Table 9. These reductions all relate to the Northern Link Road which, while removed from the Additional Disturbance of Project Extensions, is still likely to proceed as either Option 1 or Option 2. Regardless however of whether Option 1 or Option 2 proceeds, the reductions in relation to the Northern Link Road mean that Aboriginal sites #37-2-1906, 37-2-5945, MP17 and MP24 are now in SSD Zone C, not Zone B4, and may not be subject to impacts. In contrast, while sites #37-2-5946, 37-2-5947, 37-2-5948, 37-2-5949 and 37-2-5950 are temporarily removed from Zone B3 or Zone B4 (where impacts were certain) to Zone C, should either Option 1 or Option 2 of the Northern Link Road proceed (refer to Tables 3-6 and section above) then these sites are still likely to be subject to impacts. The potential impacts and site management strategies can be amended as outlined in Table 9.

Conclusion:

The minor amendments to components of the SSD Project made after completion of the ACHAR (Kuskie 2020) have been assessed here in relation to Aboriginal cultural heritage (refer to Tables 1-9).

As discussed above and outlined in Tables 1-9, there has been very minimal change with respect to the impacts of the Project on Aboriginal heritage, and no material change to any recommendations presented in the ACHAR are required other than that the amendments to Appendix 7 of the ACHAR should be implemented in accordance with those specified here for individual Aboriginal sites in Tables 1-9 (yellow shading).

Table 1: Aboriginal sites in Appendix 7 of the ACHAR (Kuskie 2020) requiring amendments (highlighted yellow) based on changes to the Existing Approved Surface Development Area within the Bengalla Mine Approved Disturbance Boundary south of Wybong Road.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2090	BMRA4	Artefact Scatter	Partially in 2053	ERM 2006. Site extends over at least 70 metre length.	Salvaged by ENSR 2008.		SSD Zone A1, C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4448	BM-AS 16-12	Artefact Scatter		Aecom 2012. Site extends over 570 x 300 metre area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4450	BM-AS 18-12	Artefact Scatter	Part possibly in 2053	Site extends over 210 x 20 metres. Only small part may be within AHIP 2053 area, most may be outside AHIP area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1712	MTP-1712	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone A1	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

Table 2: Aboriginal sites in Appendix 7 of the ACHAR (Kuskie 2020) requiring amendments (highlighted yellow) based on changes to the Existing Approved Surface Development Area north of Wybong Road within the MPO.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1447	Kayuga (1996) 13/1;K(1996) 13/1;	Open Artefact Site	Partially in 2092	Recorded by Ruig 1996. Partially adjacent to and partly within AHIP #2029 area. Site extends over approximately 180 x 90 metre area south and west of grid reference. Portion of site re-recorded during SSD survey in November 2019 by South East Archaeology.	In situ	Uncertain	SSD Zone A3, B4 and Zone C	Direct	Possibly total or partial	Possibly total or partial loss of value	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total or partial loss of value	Increase.
37-2-3293	MTP-714	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3294	MTP-715	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3303	MTP-724	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3443	MTP-865	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3445	MTP-867	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3446	MTP-868	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1R - C, C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3447	MTP-869	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C, C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3791	MTP-1213	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3792	MTP-1214	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3803	MTP-1225	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP3	MP3	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends along track for 80 metres. Probably corresponds to MTP-1225.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
47	47	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 2 metre area.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

Table 3: Aboriginal sites that may be subject to reduced impacts should Option 1 of the Northern Link Road be adopted, rather than the corridor assessed in the ACHAR (Kuskie 2020) and potential changes to Appendix 7 of the ACHAR (highlighted yellow) should Option 1 be approved and implemented.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1906	DE 1	Open Artefact Site		Recorded by Hardy (HLA-Envirosciences) 2000.	In situ	Uncertain	SSD Zone C[(a)]	Possibly direct or none[(b)]	Possibly total, partial or none[(c)]	Possibly total, partial or no loss of value[(d)]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[(e)]	Possibly no change or increase[(f)].
37-2-5945	MTP-1742	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[(a)]	Possibly direct or none[(b)]	Possibly total, partial or none[(c)]	Possibly total, partial or no loss of value[(d)]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[(e)]	Possibly no change or increase[(f)].
MP17	MP17	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C[(a)]	Possibly direct or none[(b)]	Possibly total, partial or none[(c)]	Possibly total, partial or no loss of value[(d)]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[(e)]	Possibly no change or increase[(f)].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP24	MP24	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C[(a)]	Possibly direct or none[(b)]	Possibly total, partial or none[(c)]	Possibly total, partial or no loss of value[(d)]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[(e)]	Possibly no change or increase[(f)].

(a) SSD Zone C from previous Zone B4.
(b) Impacts 'Possibly direct or none' from previous 'Direct'.
(c) 'Possibly total, partial or none' from previous 'Total'.
(d) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(e) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(f) 'Possibly no change or increase' from previous 'Increase'.

Table 4: Aboriginal sites that may be subject to increased impacts should Option 1 of the Northern Link Road be adopted, rather than the corridor assessed in the ACHAR (Kuskie 2020) and potential changes to Appendix 7 of the ACHAR (highlighted yellow) should Option 1 be approved and implemented.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP14	MP14	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone B4[a]	Direct[b]	Total[c]	Total loss of value[d]	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[e]	Increase[f].
MP23	MP23	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[e]	Increase[f].

(a) SSD Zone B2 or B4 from previous Zone C.
(b) Impacts 'Direct' from previous 'Possibly direct or none'.
(c) 'Total' from previous 'Possibly total, partial or none'.
(d) 'Total loss of value' from previous 'Possibly total, partial or no loss of value'.
(e) 'Total loss of value' from previous 'Possibly total, partial or no loss of value'.
(f) 'Increase' from previous 'Possibly no change or increase'.

Table 5: Aboriginal sites that may be subject to reduced impacts should Option 2 of the Northern Link Road be adopted, rather than the corridor assessed in the ACHAR (Kuskie 2020) and potential changes to Appendix 7 of the ACHAR (highlighted yellow) should Option 2 be approved and implemented.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1906	DE 1	Open Artefact Site		Recorded by Hardy (HLA-Envirosciences) 2000.	In situ	Uncertain	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5945	MTP-1742	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5946	MTP-1743	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
MP17	MP17	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP24	MP24	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].

(a) SSD Zone C from previous Zone B4.
(b) Impacts 'Possibly direct or none' from previous 'Direct'.
(c) 'Possibly total, partial or none' from previous 'Total'.
(d) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(e) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(f) 'Possibly no change or increase' from previous 'Increase'.

Table 6: Aboriginal sites that may be subject to increased impacts should Option 2 of the Northern Link Road be adopted, rather than the corridor assessed in the ACHAR (Kuskie 2020) and potential changes to Appendix 7 of the ACHAR (highlighted yellow) should Option 2 be approved and implemented.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3759	MTP-1181	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3760	MTP-1182	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3761	MTP-1183	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3762	MTP-1184	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone B1[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3764	MTP-1186	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone B1[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3765	MTP-1187	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone B1[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3822	MTP-1244	Isolated Artefact		Scarp 2009. Immediately adjacent to AHIP 2092 area.	In situ	Low	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3823	MTP-1245	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone B1[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3824	MTP-1246	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone B1[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].
37-2-3829	MTP-1251	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3830	MTP-1252	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone B2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	Increase[f].

(a) SSD Zone B1 or B2 from previous Zone C.
(b) Impacts 'Direct' from previous 'Possibly direct or none'.
(c) 'Total' from previous 'Possibly total, partial or none'.
(d) 'Total loss of value' from previous 'Possibly total, partial or no loss of value'.
(e) 'Total loss of value' from previous 'Possibly total, partial or no loss of value'.
(f) 'Increase' from previous 'Possibly no change or decrease'.

Table 7: Aboriginal sites that may be subject to reduced impacts by virtue of inclusion within the revised Approximate Disturbance Area to be Relinquished (SSD Zone C), rather than the impact area as assessed in the ACHAR (Kuskie 2020) with required amendments to Appendix 7 of the ACHAR (highlighted yellow).

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3293	MTP-714	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C[a]	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3294	MTP-715	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C[a]	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3303	MTP-724	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C[a]	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3445	MTP-867	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1R - C[a]	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3446	MTP-868	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1R - C, C[a]	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3731	MTP-1153	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3791	MTP-1213	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone A2R - C[(a)]	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3792	MTP-1214	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone A2R - C[(a)]	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3803	MTP-1225	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C[(a)]	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
47	47	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 2 metre area.	In situ	Low	SSD Zone A1R - C[(a)]	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP3	MP3	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends along track for 80 metres. Probably corresponds to MTP-1225.	In situ	Uncertain	SSD Zone A2R - C[(a)]	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
I35	I35	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A2R - C[(a)]	Possibly direct or none[(b)]	Possibly total, partial or none[(c)]	Possibly total, partial or no loss of value[(d)]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[(e)]	Possibly no change or increase[(f)].

(a) SSD Zone C from previous Zone A2 or Zone A1.
(b) Impacts 'Possibly direct or none' from previous 'Direct'.
(c) 'Possibly total, partial or none' from previous 'Total'.
(d) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(e) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(f) 'Possibly no change or increase' from previous 'Increase' or 'No change'.

Table 8: Aboriginal sites that may be subject to increased impacts by virtue of exclusion from the revised Approximate Disturbance Area to be Relinquished, from that assessed in the ACHAR (Kuskie 2020) with required amendments to Appendix 7 of the ACHAR (highlighted yellow).

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2427	159	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Significance requires assessment. McCardle recommended test excavation.	Test excavation, assess significance and then manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[e]	No change[f].
37-2-2453	214	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	No change[f].
37-2-2454	215	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	No change[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2522	293	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	No change[f].
37-2-2523	294	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Significance requires assessment. McCardle recommended test excavation.	Test excavation, assess significance and then manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[e]	No change[f].
37-2-2524	295	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value[e]	No change[f].
MP14	MP14	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone A2[a]	Direct[b]	Total[c]	Total loss of value[d]	Significance requires assessment.	Assess significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[e]	No change[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I28	I28	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	In situ	Uncertain	SSD Zone A2[(a)]	Direct[(b)]	Total[(c)]	Total loss of value[(d)]	Significance requires assessment.	Assess significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[(e)]	No change[(f)].
I33	I33	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 13 artefacts.	In situ	Uncertain	SSD Zone A2[(a)]	Direct[(b)]	Total[(c)]	Total loss of value[(d)]	Significance requires assessment.	Assess significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[(e)]	No change[(f)].
I34	I34	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ	Uncertain	SSD Zone A2[(a)]	Direct[(b)]	Total[(c)]	Total loss of value[(d)]	Significance requires assessment.	Assess significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value[(e)]	No change[(f)].

(a) SSD Zone A2 from previous Zone A2R - C.
(b) Impacts 'Direct' from previous 'Possibly direct or none'.
(c) 'Total' from previous 'Possibly total, partial or none'.
(d) 'Total loss of value' from previous 'Possibly total, partial or no loss of value'.
(e) 'Total loss of value' from previous 'Possibly total, partial or no loss of value'.
(f) 'No change' from previous 'Possibly no change or decrease'.

Table 9: Aboriginal sites in Appendix 7 of the ACHAR (Kuskie 2020) requiring amendments (highlighted yellow) based on changes to the ***Approximate Additional Disturbance of Project Extensions*** that would result in decreased impacts compared with that assessed in the ACHAR (Kuskie 2020) (however, note that if either Option 1 of the Northern Link Road proceeds the amendments in Tables 3 and 4 would be required to the ACHAR Appendix 7, or if Option 2 of the Northern Link Road proceeds the amendments in Tables 5 and 6 would be required to the ACHAR Appendix 7).

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1906	DE 1	Open Artefact Site		Recorded by Hardy (HLA-Envirosciences) 2000.	In situ	Uncertain	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5945	MTP-1742	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
MP17	MP17	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP24	MP24	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5946	MTP-1743	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5947	MTP-1744	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5948	MTP-1745	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].
37-2-5949	MTP-1746	Artefact Scatter		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[a]	Possibly direct or none[b]	Possibly total, partial or none[c]	Possibly total, partial or no loss of value[d]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[e]	Possibly no change or increase[f].

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-5950	MTP-1747	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone C[(a)]	Possibly direct or none[(b)]	Possibly total, partial or none[(c)]	Possibly total, partial or no loss of value[(d)]	Impacts uncertain, subject to detailed design. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design. Surface collection if direct impacts.	Possibly total, partial or no loss of value[(e)]	Possibly no change or increase[(f)].

(a) SSD Zone C from previous Zone B4.
(b) Impacts 'Possibly direct or none' from previous 'Direct'.
(c) 'Possibly total, partial or none' from previous 'Total'.
(d) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(e) 'Possibly total, partial or no loss of value' from previous 'Total loss of value'.
(f) 'Possibly no change or increase' from previous 'Increase'.

MOUNT PLEASANT OPTIMISATION PROJECT, HUNTER VALLEY, NEW SOUTH WALES: STATE SIGNIFICANT DEVELOPMENT APPLICATION - ABORIGINAL CULTURAL HERITAGE ASSESSMENT



A report to

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EXECUTIVE SUMMARY

South East Archaeology has been engaged by MACH Mount Pleasant Operations Pty Limited to undertake an Aboriginal Cultural Heritage Assessment for a State Significant Development (SSD) Application for the proposed Mount Pleasant Optimisation Project (the "Project").

The existing Mount Pleasant Operation (MPO) is located in the Upper Hunter Valley of New South Wales (NSW), approximately three kilometres north-west of Muswellbrook, within the Muswellbrook Local Government Area.

MACH Energy Australia Pty Ltd (MACH Energy) acquired the Mount Pleasant Operation from Coal and Allied Operations Pty Ltd on 4 August 2016. MACH Mount Pleasant Operations Pty Ltd (MACH) manages the MPO as agent for and on behalf of the unincorporated Mount Pleasant Joint Venture between MACH Energy (95% owner) and J.C.D. Australia Pty Ltd (5% owner).

The initial development application for the MPO was made in 1997 and Development Consent DA 92/97 was granted on 22 December 1999. The MPO was also approved under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 2012 (EPBC 2011/5795).

The approved MPO includes the construction and operation of an open cut coal mine and associated rail spur and infrastructure. MACH commenced construction activities at the MPO in November 2016 and commenced mining operations in October 2017, in accordance with Development Consent DA 92/97 and EPBC 2011/5795.

Various Aboriginal cultural heritage assessments have been undertaken for the MPO, with heritage survey coverage previously achieved over much of the SSD Area. Three Section 90 Aboriginal Heritage Impact Permits (AHIPs) have been issued by the former NSW Office of Environment and Heritage (OEH) (now Heritage NSW) in relation to substantial portions of the MPO. Numerous Aboriginal sites have already been salvaged and/or impacted under these approved AHIPs.

At present, the MPO is not a Part 3A Major Project or SSD Project under Division 4.1 of Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), and as such, the AHIPs, *National Parks & Wildlife Act 1974* (NP&W Act), DA 92/97 Development Consent conditions and the approved Aboriginal Heritage Management Plan (AHMP) (MACH Energy 2017) are currently of primary relevance to the management of Aboriginal heritage within the MPO.

However, for mining activities beyond 2026, MACH is submitting an SSD application to the NSW Minister for Planning under Division 4.1 of Part 4 of the NSW EP&A Act. This Aboriginal Cultural Heritage Assessment will form a component of the SSD application.

With respect to Aboriginal cultural heritage, the SSD application would involve an administrative change, whereby management of identified and potential heritage would transition from the AHIP system (under Section 90 of the NP&W Act) to a revised AHMP (subject to any Part 4 Division 1 SSD Approval), which would provide an exemption to Section 90 of the NP&W Act.

The key components of the proposed Mount Pleasant Optimisation Project comprise continued operations within existing approved areas ("Zone A"), extensions of open cut coal extraction within an area of approximately 504 hectares ("Zone B"), upgrades and additional infrastructure including rail transport, infrastructure relocations, new ancillary infrastructure and an extension of mining until 2048.

The potential impacts associated with the SSD Project principally comprise:

- *SSD Zone A - Direct surface impacts* involving *existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance*.
- *SSD Zone B - Direct surface impacts* involving *areas in which additional SSD primary disturbance is proposed*. These areas can be subdivided further as follows:

  B1) Subject to previous heritage survey and covered by an AHIP.
  B2) Subject to previous heritage survey, but not covered by an AHIP.
  B3) Not subject to previous heritage survey, but covered by an AHIP.
  B4) Not subject to previous heritage survey and not covered by an AHIP.

- *SSD Zone C - Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design.* This includes existing Approved Areas which are to be relinquished under the SSD.

The principal aims of this assessment were to address the Planning Secretary's Environmental Assessment Requirements for the Project and to identify and record any Aboriginal heritage evidence or cultural values within the SSD Area, with a focus of field survey being Zones B3 and B4 (areas in which additional primary disturbance is proposed but which have not been subject to previous heritage survey), assess the potential impacts of the SSD Project on Aboriginal heritage (with a focus on Zone B and any changes to the level of potential impacts from those currently known or approved), assess the significance of any newly identified evidence, and reassess and present recommendations for the management of Aboriginal heritage evidence within the SSD Area, in consultation with the local Aboriginal community.

The investigation proceeded by recourse to the archaeological, cultural and environmental background of the locality, followed by consultation with the Aboriginal community and a field survey undertaken with the assistance of representatives of the Registered Aboriginal Parties (RAPs), in accordance with the Planning Secretary's Environmental Assessment Requirements for the Project, including the relevant Department of Planning, Industry and Environment (DPIE) and Biodiversity and Conservation Division (BCD, now Heritage NSW) requirements. Primarily these requirements involved reference to the Heritage NSW 2011 *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*, 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* and *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

A comprehensive program of consultation has been undertaken with the Aboriginal community consistent with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy. A total of 88 RAPs have been identified and consulted.

To supplement the cultural heritage investigation, further assessment of intangible Aboriginal cultural values was undertaken by a social anthropologist, with a specific report on cultural values incorporated in Appendix 9.

A field survey of the small portions of the Zone B investigation area that had not been previously surveyed was undertaken by archaeologists from South East Archaeology, accompanied by representatives of the RAPs.

MACH invited all RAPs to attend an online information session to discuss the survey results, cultural values and draft Aboriginal Cultural Heritage Assessment Report.

As the primary purpose of this assessment was to address the *additional or altered impacts* of the Mount Pleasant Optimisation Project on Aboriginal heritage (compared to the existing approved impacts), the focus of the field investigation and assessment was to comprise Zone B, the areas where additional primary disturbance is proposed from the SSD Project. However, almost all of Zone B has previously been subject to heritage survey. Additional field survey of these areas was not considered to be warranted, although for completeness, survey would occur within Zone B3, which is covered by existing AHIPs but has not been previously surveyed, and Zone B4, in which previous heritage survey has not occurred and an AHIP has not been issued.

Additional field survey of Zone A was not considered to be warranted, as these are existing approved areas in which the SSD Project does not comprise additional primary disturbance. These areas have almost entirely been subject to heritage survey and are largely covered by existing AHIPs.

Additional field survey of Zone C was not considered to be warranted at present, as minimal impacts are proposed and these have not yet been subject to detailed design. Any such potential impact areas are likely to be minor in extent and can be satisfactorily addressed subsequent to SSD approval through the inclusion of appropriate requirements in an AHMP.

As a component of this SSD Project a single MPO Aboriginal Site Database was developed. The Revision 4 MPO Aboriginal Site Database Area encompasses 63.4 square kilometres and includes the currently approved MPO, the SSD Application Area and the existing and provisional Aboriginal Heritage Conservation Areas A, B and C.

Over 1,900 heritage sites have been recorded within the MPO Aboriginal Site Database Area, including approximately 1,909 open artefact sites (albeit a number represent overlapping recordings) and 14 scarred trees. The conduct of the present survey within Zones B3 and B4 resulted in the identification of seven open artefact sites.

Contemporary cultural values associated with the SSD Area have been identified by the RAPs, largely during the course of previous studies rather than specifically during the course of the present survey, including:

- In general terms, the use of subsistence or other resources;
- In general terms, the traditional use of the area by Aboriginal people, and an ongoing cultural and spiritual connection to the land and resources of the SSD Area by the Wonnarua and Kamilaroi (Gomeroi) people. The cultural connectivity of landscapes and Aboriginal pathways through the wider central to upper Hunter Valley landscape have been noted; and
- The contemporary significance of Aboriginal objects - archaeological evidence (such as artefact scatters) identified within the SSD Area is of contemporary significance to the Aboriginal community, as it represents a tangible link with the traditional past and with the lifestyle and values of community ancestors.

Further investigation of Aboriginal cultural values specifically in relation to this assessment was undertaken by a social anthropologist and highlighted a number of cultural heritage themes associated with Mount Pleasant and the surrounding landscape including:

- As noted above, the important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects;
- The historic resistance of Wonnarua ancestors to colonisation is valued by Wonnarua people today - the past acts are an integral part of contemporary Wonnarua cultural identity and form part of people's attachment to place;
- The customary right to care for and make decisions about one's traditional land is important to Wonnarua people today; and
- As noted above, the ongoing cultural use of natural resources, including water, across the landscape is an important cultural practise for Wonnarua people today.

The model of Aboriginal occupation for the locality indicates that much of the SSD Area is located in contexts that are outside of primary or secondary resource zones, in which occupation is more likely to have been of a generally low intensity and related to hunting and gathering activities, transitory movement and procurement of stone materials. The evidence identified during the extensive surveys across the MPO is consistent with this model. This evidence is overwhelmingly of low density open artefact distributions representative of background discard, with a low number of activity areas.

The identified evidence across the MPO represents the 'windows of visibility' (created by erosion or other ground disturbance) into a resource that comprises a virtually continual distribution of artefacts across the landscape at varying densities.

Only small portions of the SSD Area, adjacent to the Hunter River, are located within what could be classified as a primary resource zone under the model, in which more focused occupation involving encampments, events of longer duration or involving larger numbers of people may have occurred.

The predictive model of Aboriginal site location, particularly relevant to SSD Zones B and C, indicates that apart from a widespread generally low to very low density distribution of artefacts and possibly lithic quarry evidence, other site types such as bora/ceremonial sites, carved trees, scarred trees, burials, grinding grooves, shelters and stone arrangements have a very low or low potential to occur within the SSD Area.

The evidence from the SSD Area is typical of that from the Central Lowlands of the Hunter Valley, and no specific aspects of the evidence appear to be rare or unusual or not replicated elsewhere within a regional context.

The significance of the newly identified Aboriginal heritage sites was assessed against criteria widely used in Aboriginal heritage management. The heritage significance of a number of the previously recorded Aboriginal sites has specifically been assessed by the previous recorders.

The assessment of specific strategies for the management of the identified and potential Aboriginal heritage resources and cultural values within the SSD Area was considered in relation to various criteria such as the:

- Nature of the heritage evidence (for example, site type, size and contents);
- Significance of the heritage evidence;
- Current approval status for the evidence (ie. existing AHIPs) and any recommended management strategies (in previous heritage reports);
- Approved MPO and Bengalla Mine impact areas (ie. existing approved impacts);

- Status of existing impacts under the current approval (ie. current status of the site, such as *in situ*, salvaged and/or impacted), noting that for existing identified Aboriginal sites this assessment is current for the date of the MACH supplied aerial photograph of 29 June 2019;
- Level and extent of existing heritage survey coverage;
- Assessment of intangible Aboriginal cultural values;
- Model of Aboriginal occupation for the locality, in which much of the SSD Area represents contexts in which occupation is likely to have been of a generally low intensity and overwhelmingly of low density open artefact evidence representative of background discard, with a low number of activity areas;
- The predictive model of Aboriginal site location, particularly relevant to SSD Zones B and C, which indicates that apart from a widespread generally low to very low density distribution of artefacts and possibly lithic quarry evidence, other site types have a very low or low potential to occur;
- Nature of the proposed SSD Impacts (broad-scale high level *primary disturbance* within SSD Zones A and B, and small-scale low to high level *minor disturbance* within SSD Zone C, along with continuing land-use particularly in SSD Zone C);
- Offsetting of impacts, through the retention of the approved Conservation Area A and alternative options for the provisional Conservation Areas B and C;
- Conclusion that the additional impacts of the SSD Project would be very low within a regional context and the cumulative impact of the SSD Project would be very low; and
- Views of the Registered Aboriginal Parties.

The recommended management strategies and the primary rationale for each strategy for each Aboriginal site are listed in Appendix 7.

The following recommendations are made with consideration of the EP&A Act and NP&W Act, the results of the investigation and consultation with the Aboriginal stakeholders:

1) Provisions relating to Aboriginal heritage will be included in an Aboriginal Heritage Management Plan for the SSD Area. These provisions will be formulated by an appropriately qualified heritage practitioner with expertise in Aboriginal heritage in consultation with the RAPs and specify the policies and actions required to manage Aboriginal heritage within the SSD Area after SSD approval is granted (consistent with those outlined in Section 10.2.4 of this report). The primary elements of the AHMP would comprise:

    a) In order to mitigate the impacts of the SSD Project on scientific and cultural values and to retrieve and conserve samples of the heritage evidence, further investigation and mitigation measures will be implemented prior to any impacts occurring to specified sites, values and areas, including management strategies for all identified Aboriginal sites as listed in Appendix 7 ('Recommended Management Strategy' column);

    b) Implementation of surface collection procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts;

c) Implementation of test excavation procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts and for which test excavation is identified as necessary;

d) Implementation of broad area hand excavation procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts and for which broad area hand excavation is identified as necessary;

e) Implementation of surface scrape and localised hand excavation procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts and for which surface scrapes and localised hand excavations are identified as necessary;

f) Implementation of scarred tree reassessment procedures and management measures consistent with Section 10.2.4 where required for identified scarred trees (refer to Appendix 7) or any previously unrecorded scarred trees that may be identified;

g) Archaeological survey of all potential impact areas that have not been subject to systematic survey sampling including:

    i) Small portions of the additional primary impact areas of SSD Zones B3 and B4 that have not been subject to heritage survey, including any alternative alignment of the Northern Link Road that may be adopted and that has not been subject to heritage survey;

    ii) Potential surface impact areas associated with works subject to future detailed design within SSD Zone C that have not been subject to heritage survey;

    iii) In areas that have been subject to previous heritage survey, subsequent to future detailed design of proposed works, to clarify potential impacts on specific identified Aboriginal sites (as specified in Appendix 7);

h) A Ground Disturbance Permit process will be implemented, with consideration of the impacts of any works on Aboriginal heritage, including the MPO Aboriginal Site Database and Open Site Shape Layer;

i) When detailed design plans have been finalised for any works involving surface impacts within SSD Zone C, the potential impacts on identified Aboriginal heritage sites will be reassessed. For those sites for which the heritage significance has not specifically been assessed, an assessment of significance will be undertaken by an appropriately qualified and experienced heritage practitioner prior to determining the appropriate management strategy. Management strategies will be implemented as outlined in Appendix 7 and in relation to the site type, level of impacts and significance (consistent with Section 10.2.4);

j) Provisions will be included to guide the management of any previously unrecorded Aboriginal heritage sites within the SSD Area that may be identified during future investigations or works, and for specific identified Aboriginal sites (refer to Appendix 7), for which the level of significance and/or impacts are not currently known. The procedures will include:

    i) Work to immediately stop in the vicinity of any newly identified Aboriginal heritage evidence (except for that identified during the course of heritage salvages), with protocols for internal reporting of the site and assessment by an appropriately qualified heritage practitioner in consultation with the RAPs;

ii) Management of previously unrecorded open artefact sites that may be identified within the SSD Area and may be subject to potential small-scale or broad-scale impacts involving the procedures outlined in Section 10.2.4;

iii) Management of any other site types that may be identified within the SSD Area involving the procedures outlined in Section 10.2.4;

iv) Should any skeletal remains be detected during the course of the Project, work in that location will cease immediately and the finds will be reported to the appropriate authorities, including the Police, Heritage NSW and the RAPs. Subject to the Police requiring no further involvement, the management of any Aboriginal skeletal remains will be determined in consultation with the DPIE, Heritage NSW and RAPs;

v) Where specified in Appendix 7, or where identified Aboriginal objects cannot be relocated and salvaged, or where unidentified Aboriginal objects exist within impact areas, unmitigated impact will be permissible subject to the implementation of all other relevant provisions;

k) The investigation and assessment of alternative conservation outcomes for the provisional Conservation Areas B and C will be undertaken by an appropriately qualified and experienced expert in Aboriginal heritage, and include the identification of an alternative area(s) for conservation, recording of the identified and potential heritage resources and cultural values within the alternative area(s) in consultation with the Aboriginal community and detailed comparative analysis of the existing Conservation Areas B and C with the alternative area(s) as outlined in Section 10.2.4 to ensure that the alternative areas are generally consistent with the existing provisional areas;

l) All heritage mitigation and management measures undertaken for the Project will be adequately documented, consistent with Section 10.2.4 of this report, and reports will be provided to relevant stakeholders (such as the RAPs, Heritage NSW and DPIE) within appropriate timeframes;

m) All heritage evidence salvaged under the Project will be curated in an appropriate manner, as determined in consultation with the RAPs. An application will be made to Heritage NSW under Section 85A of the NP&W Act for the curation of any salvaged items that are permanently removed from any heritage site. Temporary storage of items at locations on-site and off-site (for example, during analysis and recording) will be allowed;

n) Where impacts will be avoided to identified *in situ* Aboriginal sites, appropriate site-specific precautionary measures, such as informing relevant staff and contractors and other landowners and users of the land of the nature and location of the items and need to avoid impacts, potentially along with protective fencing and signage, will be implemented where relevant for those sites within close proximity of the area of works;

o) As a general principle, all relevant contractors and staff engaged on the Project who are undertaking tasks on site that may give rise to any interactions with Aboriginal heritage will receive cultural heritage awareness training prior to commencing work on-site. The training package will be formulated in consultation with the RAPs and include the presentation of information about the Aboriginal culture and history of the locality, nature of the identified and potential Aboriginal heritage evidence within the SSD Area, on-site management measures and procedures for Aboriginal heritage, and legal obligations;

p) The MPO Aboriginal Site Database and Open Site Shape Geographic Information System (GIS) layer established for this Project (refer to Appendix 7), that lists known Aboriginal sites within the MPO Aboriginal Site Database Area in both tabular and GIS form, will be updated following the SSD Approval and continue to be maintained and regularly updated;

q) Aboriginal Site Recording Forms and Aboriginal Site Impact Recording Forms will be lodged in a timely manner with the Heritage NSW AHIMS for any previously unrecorded Aboriginal heritage evidence that is identified within the SSD Area during the course of operations and/or further heritage assessments, and/or for identified sites that are subject to salvage or impacts;

r) All archaeological survey, excavation, collection, monitoring, analysis and reporting will only be undertaken by archaeologists qualified and experienced in Aboriginal heritage (minimum BA Honours degree in Aboriginal archaeology and two years full-time experience in Aboriginal archaeology), in consultation with and with the involvement of representatives of the RAPs, and will occur prior to any development impacts occurring to those specific areas or sites;

s) Procedures will be included relating to the ongoing involvement of the RAPs in the management of Aboriginal heritage within the SSD Area, including regular communications, notification about the discovery of new Aboriginal objects and skeletal material, provision of draft reports for comment and final reports, dispute resolution processes, and engagement of representatives for participation in all archaeological survey, excavation, collection and monitoring required under the Plan;

t) Provisions will be included to ensure that Aboriginal community representatives are permitted access for cultural purposes to any identified sites or areas within MACH controlled land when requested, in consideration of safety and operational requirements at the time;

u) The AHMP will be regularly verified to establish that it is functioning as designed (ie. policies adhered to and actions implemented) to the standard required. This will involve review of the AHMP to identify the degree to which the policy objectives are being met, the suitability of the actions in terms of addressing the policy objectives, the quality of performance of the actions, and any additional policies or actions or modifications to existing policies or actions that may be required to enable better functioning of the AHMP;

2) Under the terms of the NP&W Act it is an offence to harm or desecrate an object that the person knows is an Aboriginal object, or to harm an Aboriginal object ('strict liability offence'). Therefore, no activities or work should be undertaken within the Aboriginal site areas as described in this report and marked on Appendix 4 unless in accordance with a valid Section 90 AHIP or with approval under Division 4.1 of Part 4 of the EP&A Act and subsequent implementation of any relevant approval conditions; and

3) Copies of the final report should be made available to each RAP and the DPIE and Heritage NSW.

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ABBREVIATIONS

Term	Definition
ACHA	Aboriginal Cultural Heritage Assessment
ACHMP	Aboriginal Cultural Heritage Management Plan
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AHMP	Aboriginal Heritage Management Plan
BCD	Biodiversity and Conservation Division within the Environment, Energy and Science Group in the NSW Department of Planning, Industry and Environment
BP	Before Present
CHPP	Coal Handling and Preparation Plant
CMA	Catchment Management Authority
DEC	Department of Environment and Conservation
DECCW	Department of Environment, Climate Change and Water
DP&E	Department of Planning and Environment (NSW)
DP&I	Department of Planning and Infrastructure (NSW)
DPIE	Department of Planning, Industry and Environment (NSW)
EA	Environmental Assessment
EESG	Environment, Energy and Science Group in the NSW Department of Planning, Industry and Environment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EL	Exploration Licence
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
GDA	Geodetic Datum of Australia

Term	Definition
GIS	Geographic Information System
GPS	Global Positioning System
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
LGA	Local Government Area
MACH	MACH Mount Pleasant Operations Pty Limited
MACH Energy	MACH Energy Australia Pty Limited
MAN	Mount Arthur North
MGA	Map Grid of Australia
ML	Mining Lease
MLA	Mining Lease Application
MPO	Mount Pleasant Operation
Mt	Million tonnes
Mtpa	Million tonnes per annum
NP&W Act	*National Parks and Wildlife Act 1974*
NPWS	National Parks and Wildlife Service
NSW	New South Wales
OEH	Office of Environment and Heritage (NSW)
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
ROM	Run-of-Mine
RTCA	Rio Tinto Coal Australia
SEA	South East Archaeology
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development

1. INTRODUCTION

1.1 Background and Overview of Proposed Project

South East Archaeology has been engaged by MACH Mount Pleasant Operations Pty Limited to undertake an Aboriginal Cultural Heritage Assessment for a State Significant Development (SSD) Application for the proposed Mount Pleasant Optimisation Project (the "Project").

The existing Mount Pleasant Operation (MPO) is located in the Upper Hunter Valley of New South Wales (NSW), approximately three kilometres north-west of Muswellbrook and 50 kilometres north-west of Singleton (refer to Figure 1). It is situated within the Muswellbrook Local Government Area (LGA).

MACH Energy Australia Pty Ltd (MACH Energy) acquired the Mount Pleasant Operation from Coal and Allied Operations Pty Ltd on 4 August 2016.

MACH Mount Pleasant Operations Pty Ltd (MACH[1]) manages the MPO as agent for and on behalf of the unincorporated Mount Pleasant Joint Venture between MACH Energy (95% owner) and J.C.D. Australia Pty Ltd (5% owner).

The initial development application for the MPO was made in 1997. This was supported by an Environmental Impact Statement (EIS) prepared by Environmental Resources Management (ERM) Mitchell McCotter (ERM Mitchell McCotter 1997a).

The MPO Development Consent DA 92/97 was granted on 22 December 1999. The MPO was also approved under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in 2012 (EPBC 2011/5795).

The approved MPO includes the construction and operation of an open cut coal mine and associated rail spur and infrastructure located approximately three kilometres north-west of Muswellbrook (refer to Figure 2). The mine is approved to produce up to 10.5 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal. Up to approximately nine trains per day of thermal coal products from the MPO are transported by rail to the Port of Newcastle for export, or to domestic customers for use in electricity generation.

MACH commenced construction activities at the MPO in November 2016 and commenced mining operations in October 2017, in accordance with Development Consent DA 92/97 and EPBC 2011/5795.

Various Aboriginal cultural heritage assessments have been undertaken within the MPO area in relation to the approved and proposed mining activities and other developments and infrastructure (refer to Section 3).

[1] Throughout this report, MACH Mount Pleasant Operations Pty Ltd and the unincorporated Mount Pleasant Joint Venture will be referred to as MACH.

Three Section 90 Aboriginal Heritage Impact Permits (AHIPs) have been issued by the NSW Office of Environment and Heritage (OEH) (now Heritage NSW[2] within the NSW Department of Premier and Cabinet) in relation to substantial portions of the MPO area (refer to Figure 3):

- AHIP #C0002092 was issued by the OEH on 23 December 2011 (originally to Coal & Allied as AHIP #11311247 and has also previously been referred to as AHIP #C0000247). It was transferred to MACH Energy on 8 September 2016. On 24 November 2016 the OEH approved an application by MACH Energy to extend the validity of AHIP #C0002092 until 23 December 2020. On 23 May 2017 the OEH approved a variation to the AHIP to reduce the size of the AHIP area, such that it did not overlap with AHIP #C0002053;
- AHIP #C0002053 was issued to MACH Energy on 25 August 2016 and is valid for ten years; and
- AHIP #C0004783 was issued to MACH Energy on 10 June 2019 and is valid for 20 years.

Numerous Aboriginal sites within the MPO have already been salvaged and/or impacted under these approved AHIPs (refer to Figure 3).

An Aboriginal Cultural Heritage Management Plan (ACHMP) was initially prepared by the then proponent Rio Tinto Coal Australia Pty Ltd (RTCA 2014) and approved by the Secretary of the Department of Planning and Environment (DP&E)[3] in August 2015.

A revised Aboriginal Heritage Management Plan (AHMP) was subsequently prepared by MACH Energy (2017), following acquisition of the MPO in 2016, and approved by the DP&E on 5 July 2017. The AHMP (MACH Energy 2017) supersedes the earlier RTCA (2014) ACHMP, apart from within the area of AHIP #C0002092 where the RTCA (2014) ACHMP remains relevant to salvage methodologies.

At present, the MPO is not a Part 3A Major Project or State Significant Development under Division 4.1 of Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), and as such, the AHIPs, *National Parks & Wildlife Act 1974* (NP&W Act), Development Consent (DA 92/97) conditions and the approved AHMP (MACH Energy 2017) are currently of primary relevance to the management of Aboriginal heritage within the MPO.

However, for mining activities beyond 2026, MACH is preparing to submit a full State Significant Development application to the NSW Minister for Planning under Division 4.1 of Part 4, 'State Significant Development', of the NSW EP&A Act. This Aboriginal Cultural Heritage Assessment of the SSD Project will form a component of the EIS being prepared by MACH for the Mount Pleasant Optimisation Project SSD application (SSD-10418).

[2] Prior to 1 July 2020 the NSW government department/agency responsible for administration of Aboriginal cultural heritage and the NP&W Act was briefly known as the Biodiversity and Conservation Division (BCD) within the Environment, Energy and Science Group in the Department of Planning, Industry and Environment, and between 2011 and 2019 as the NSW Office of Environment and Heritage (OEH). Prior to April 2011 these functions were administered by the Department of Environment, Climate Change and Water (DECCW), previously also known as the Department of Environment and Climate Change (DECC), Department of Environment and Conservation (DEC) and the National Parks and Wildlife Service (NPWS).

[3] Now the Department of Planning, Industry and Environment (DPIE).

The key components of the proposed Mount Pleasant Optimisation Project (refer to Figure 4) comprise:

- Increased open cut coal extraction within Mount Pleasant Operation Mining Leases by mining of additional coal reserves, including lower coal seams in the North Pit;
- Staged increase in extraction, handling and processing of ROM coal up to 21 Mtpa (ie. progressive increase in ROM coal mining rate from 10.5 Mtpa over the Project life);
- Staged upgrades to the existing Coal Handling and Preparation Plant (CHPP) and coal handling infrastructure to facilitate the handling and processing of additional coal;
- Rail transport of up to approximately 17 Mtpa of product coal to domestic and export customers;
- Upgrades to workshops, electricity distribution and other ancillary infrastructure;
- Existing infrastructure relocations to facilitate mining extensions (eg. local roads, powerlines and water pipelines);
- Construction and operation of new water management and water storage infrastructure in support of the mine;
- Additional reject dewatering facilities to allow co-disposal of fine rejects with waste rock as part of ROM waste rock operations;
- Development of an integrated waste rock emplacement landform that incorporates geomorphic drainage design principles for hydrological stability, and varying topographic relief to be more natural in exterior appearance;
- Construction and operation of new ancillary infrastructure in support of mining;
- Extension to the time limit on mining operations to 22 December 2048;
- An average operational workforce of approximately 600 people, with a peak of approximately 830 people;
- Ongoing exploration activities; and
- Other associated infrastructure, plant, equipment and activities.

This Aboriginal Cultural Heritage Assessment (ACHA) of the Mount Pleasant Optimisation Project is reported herein, with a glossary presented in Appendix 1.

1.2 Study Purpose and Scope

The Planning Secretary's Environmental Assessment Requirements (SEARs) for the Project were issued on 17 February 2020 (refer to Appendix 2).

Heritage (including Aboriginal heritage, which is the focus of this assessment[4]) is a specific issue for the EIS, with the following general and specific requirements needing to be addressed:

- A description of the existing environment likely to be affected by the development, using sufficient baseline/background data;

[4] Heritage also includes non-indigenous (historic) heritage, which is addressed separately by Extent Heritage.

- An assessment of the likely impacts for all stages of the development, including cumulative impacts, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice;
- A description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the likely impacts of the development, and an assessment of whether these measures are consistent with industry best practice and represent the full range of reasonable and feasible mitigation measures that could be implemented, the likely effectiveness of these measures, and whether contingency measures would be necessary to manage any residual risks;
- Consultation with Heritage NSW and relevant Aboriginal stakeholders, with description of the consultation process used and its effectiveness, any issues raised and any design amendments and/or mitigation measures proposed to address issues raised; and
- Specifically for the key issue of Aboriginal heritage, an assessment of the potential impacts of the development on Aboriginal heritage (cultural and archaeological), including consultation with relevant Aboriginal communities/parties and documentation of the views of these stakeholders regarding the likely impact of the development on their cultural heritage.

In relation to Aboriginal heritage, input provided by Heritage NSW (former OEH / BCD) into the SEARs (refer to Appendix 2) involved standard requirements (but no project-specific requirements), including:

- A general comment that "any Aboriginal cultural heritage assessment undertaken prior to 2010 is unlikely to meet current BCD Aboriginal cultural heritage guidelines for the assessment of Aboriginal cultural heritage in NSW. The *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a) should be referenced in this instance";
- "The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for survey survey and test excavation. The identification of cultural heritage values should be guided by the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a) and consultation with BCD regional branch officers";
- Consultation with Aboriginal people must be undertaken and documented in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy (DECCW 2010c). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR"; and
- "Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to BCD".

In relation to Aboriginal heritage, the guidelines and policies specifically mentioned by the BCD (former OEH / now Heritage NSW) in their SEARs input[5] (Attachment C – Guidance Material; refer to Appendix 2) include:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy (DECCW 2010c);
- Aboriginal Site Recording Form (ASRF) (relevant to reporting any newly identified Aboriginal sites);
- Aboriginal Site Impact Recording Form (ASIRF) (relevant to reporting any impacts to and/or salvage of identified Aboriginal sites, such as through test excavation);
- The Aboriginal Heritage Information Management System (AHIMS) Registrar (relevant for the lodgement of ASRF and ASIRFs and searches of existing site records); and
- The Care Agreement Application form (relevant to enable the transfer and curation of any Aboriginal objects that may be recovered during the investigation, for example during test excavations).

The SEARs also include in Attachment 1 (Environmental Planning Instruments, Guidelines, Policies and Plans) mention of two other items in relation to heritage, which may be of relevance to this Aboriginal heritage assessment[6]:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010a); and
- *Hunter Regional Environmental Plan 1989 (Heritage)*.

With respect to Aboriginal cultural heritage, the SSD application would involve an administrative change, whereby management of identified and potential heritage within the SSD Area would transition from the AHIP system (under Section 90 of the NP&W Act) to a revised AHMP (subject to any Part 4 Division 1 SSD Approval), which would provide an exemption to Section 90 of the NP&W Act.

As detailed in Section 3, extensive heritage survey coverage has already been achieved across the MPO and SSD Area, *including across almost all areas in which additional primary disturbance is proposed under the SSD Project* (refer to Figures 4 and 5 and Section 3).

Over 1,900 Aboriginal heritage sites have been recorded within the MPO Aboriginal Site Database Area (refer to Figure 3 and Section 3). Many of the heritage sites that are situated in approved impact areas have already been subject to salvage (refer to Section 3) and many have also been subject to subsequent approved impacts.

[5] Guidelines that are referred to by the BCD (now Heritage NSW) in relation to historical heritage (but not Aboriginal heritage) include the International Council on Monuments and Sites (ICOMOS) *Burra Charter, Statement of Heritage Impact 2002* (Heritage Office and Department of Urban Affairs and Planning) and *NSW Heritage Manual* (Department of Urban Affairs and Planning).

[6] Other items only relate to non-indigenous (historical) heritage which is addressed elsewhere by Extent Heritage.

The currently approved AHIPs cover much of the MPO area, including areas currently approved for impacts and additional impact areas proposed under the SSD Project (refer to Figure 5). Almost all of the additional primary disturbance area of the SSD Project that is not covered by existing AHIPs has been subject to heritage survey during the assessments that formed the basis of the existing AHIP approvals.

Subject to approval of the SSD Project, subsequent revision of the MPO AHMP to address the approval conditions and outcomes of this Aboriginal Cultural Heritage Assessment, and approval of the revised AHMP, it is envisaged that management of all Aboriginal heritage within the SSD Area would occur in accordance with the SSD Approval and approved AHMP, with the AHIPs to be surrendered.

For the purposes of this Aboriginal Cultural Heritage Assessment, the SSD Area can be subdivided into a number of Zones:

A) *Existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance.* These areas can be subdivided further as follows:

A1) Subject to previous heritage survey and covered by an AHIP.
A2) Subject to previous heritage survey, but not covered by an AHIP.
A3) Not subject to previous heritage survey, but covered by an AHIP.
A4) Not subject to previous heritage survey and not covered by an AHIP.
A1R) Subject to previous heritage survey and covered by an AHIP – but disturbance area to be relinquished under the SSD.
A2R) Subject to previous heritage survey, but not covered by an AHIP – but disturbance area to be relinquished under the SSD.
A3R) Not subject to previous heritage survey, but covered by an AHIP – but disturbance area to be relinquished under the SSD.
A4R) Not subject to previous heritage survey and not covered by an AHIP – but disturbance area to be relinquished under the SSD.

B) *Areas in which additional SSD primary disturbance is proposed.* These areas can be subdivided further as follows (refer to Figure 6):

B1) Subject to previous heritage survey and covered by an AHIP.
B2) Subject to previous heritage survey, but not covered by an AHIP.
B3) Not subject to previous heritage survey, but covered by an AHIP.
B4) Not subject to previous heritage survey and not covered by an AHIP.

C) *Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design*[7].

The principal aims and scope of this Aboriginal Cultural Heritage Assessment have therefore been to:

- Undertake heritage register searches, research, Aboriginal community consultation and where required an archaeological survey and excavations to address the SEARs for the Project and to identify and record any Aboriginal heritage evidence or areas of potential evidence or cultural values within the Mount Pleasant Optimisation Project investigation area, with a focus of field survey investigations being Zone B3 (areas in which additional primary disturbance is proposed, but which have not been subject to previous heritage survey but are covered by an AHIP) and Zone B4 (areas in which additional primary disturbance is proposed, but which have not been subject to previous heritage survey and are not covered by an AHIP);

[7] Including for example any alternative alignment of the Northern Link Road.

- Assess the potential impacts of the Mount Pleasant Optimisation Project upon any identified or potential Aboriginal heritage evidence or cultural values, with a focus on Zone B and any changes to the level of potential impacts from those currently known or approved;
- Assess the significance of any newly identified Aboriginal heritage evidence or cultural values;
- Provide details of any newly identified Aboriginal heritage evidence in accordance with the Heritage NSW (former OEH / BCD) requirements;
- Consult with the Aboriginal community as per the Heritage NSW policy entitled *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010c);
- Reassess and present recommendations for the management of any identified Aboriginal heritage evidence and potential heritage resources or cultural values within the Mount Pleasant Optimisation Project area (inclusive of potential cumulative impacts); and
- Prepare an Aboriginal cultural heritage assessment report to meet the requirements of MACH, the DPIE and Heritage NSW (former OEH / BCD), primarily with reference to the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a), *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010c) and *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).

South East Archaeology was engaged by MACH in April 2018 to undertake this assessment, with an initial focus being a comprehensive review of the MPO Aboriginal Site Database and Geographic Information System (GIS) (refer to Section 3).

1.3 Authorship

This assessment has been prepared by Peter Kuskie, an archaeologist with a Bachelor of Arts (BA) (Honours) degree in Aboriginal archaeology from the Australian National University and 30 years experience in the conduct of Aboriginal cultural heritage assessments throughout Australia, including numerous similar projects.

Social anthropologist Susan Dale Donaldson of Environmental and Cultural Services assisted with additional assessment of intangible cultural values and prepared Appendix 9 of this report. Susan holds a BA degree in Anthropology and Resource Management from Macquarie University and a Master of Applied Anthropology and Participatory Development from the Australian National University and has had over 20 years experience engaging with indigenous groups across south-east NSW, the Western Desert region of Western Australia, the Gulf of Carpentaria in Queensland and the Central Desert region of the Northern Territory.

The field investigation was undertaken by Peter Kuskie and Corey O'Driscoll. Corey O'Driscoll holds a first class BA (Honours) degree in archaeology from the University of Queensland and has over eight years experience in the conduct of Aboriginal heritage assessments.

Analysis and reporting was completed by Peter Kuskie, with Susan Dale Donaldson completing the cultural values reporting in Appendix 9. Aboriginal community consultation was managed by MACH and its technical advisors. Quality review was completed by MACH and its technical advisors.



Figure 1: Location of the Mount Pleasant Operation (courtesy MACH).

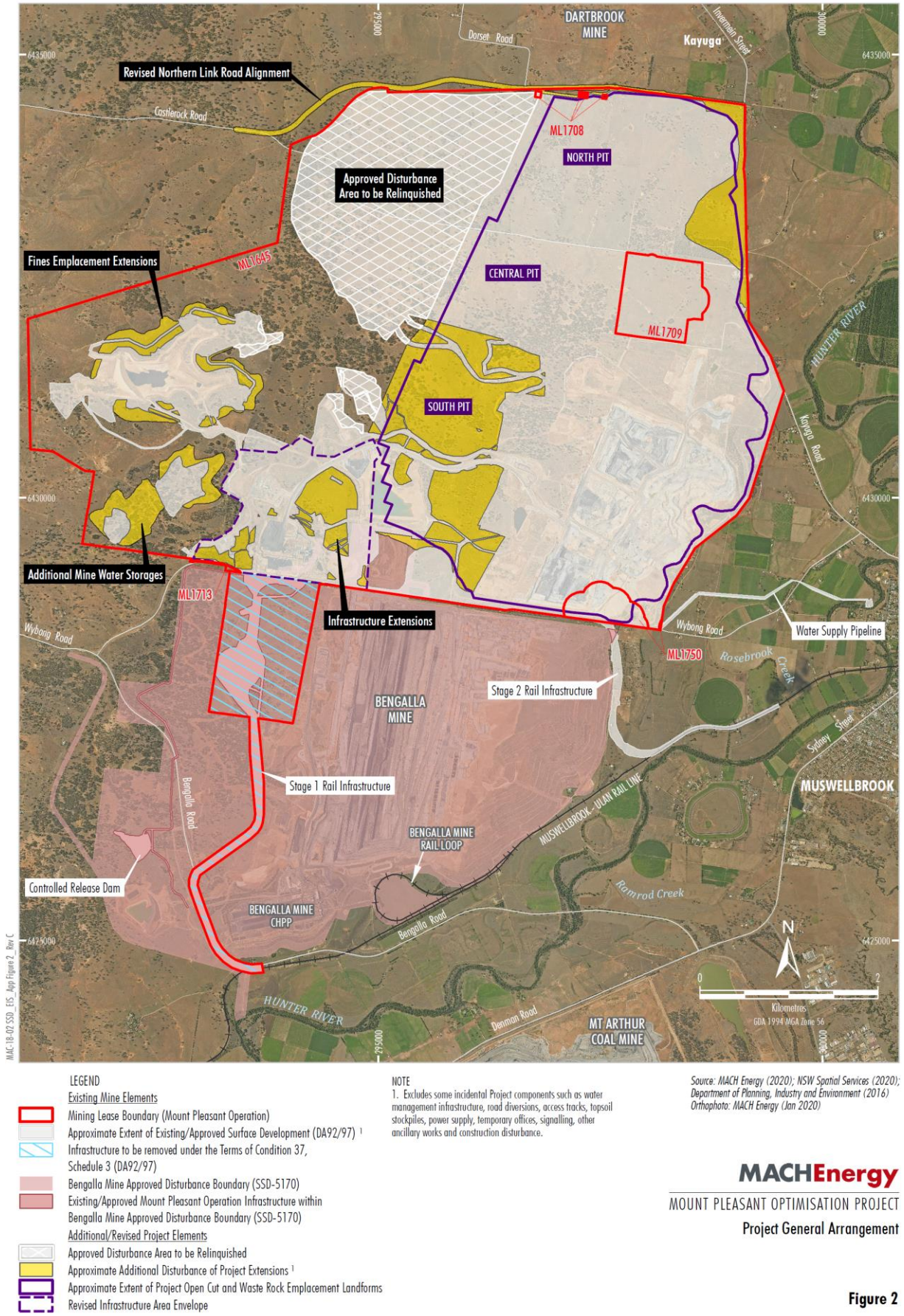


Figure 2: MPO existing operations and SSD Project Area (courtesy MACH).



Figure 3: Existing AHIP areas and Aboriginal site locations within the SSD Area (courtesy MACH; Revision 4 MPO Aboriginal Site Database).

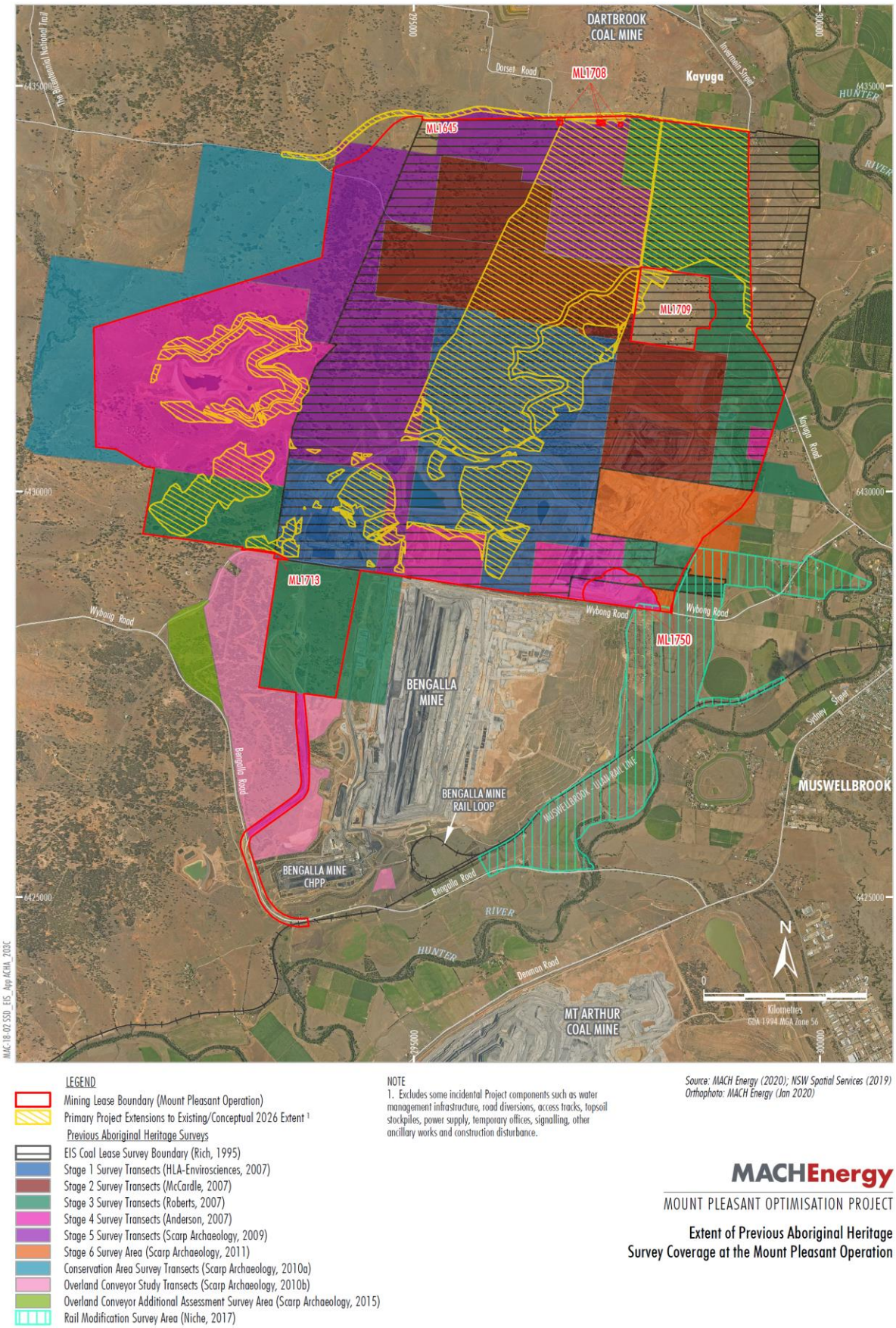


Figure 4: Extent of previously Aboriginal heritage survey coverage at the MPO (courtesy MACH).

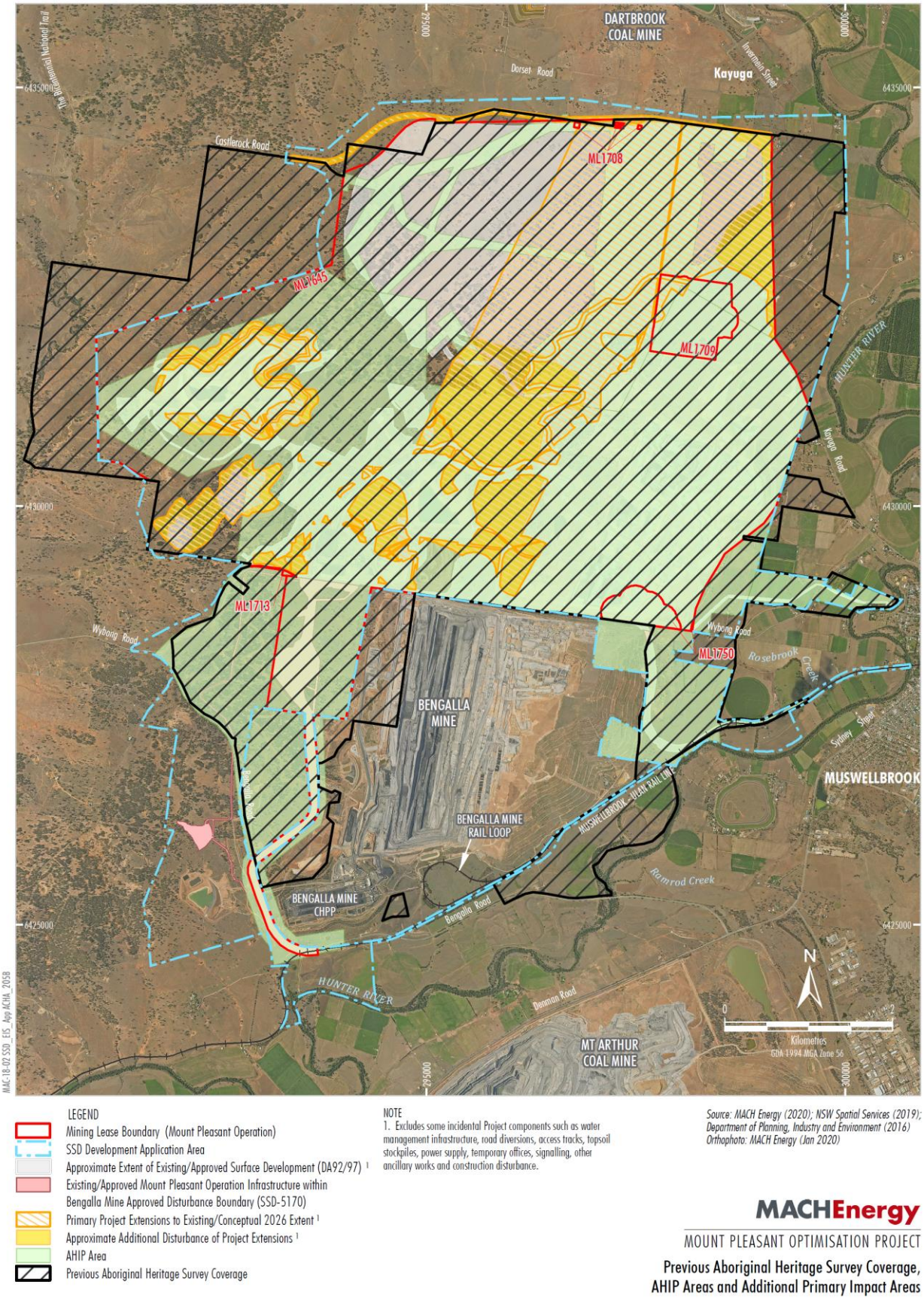


Figure 5: MPO SSD Area showing extent of previous heritage survey coverage, AHIP areas and additional primary impact areas (courtesy MACH).

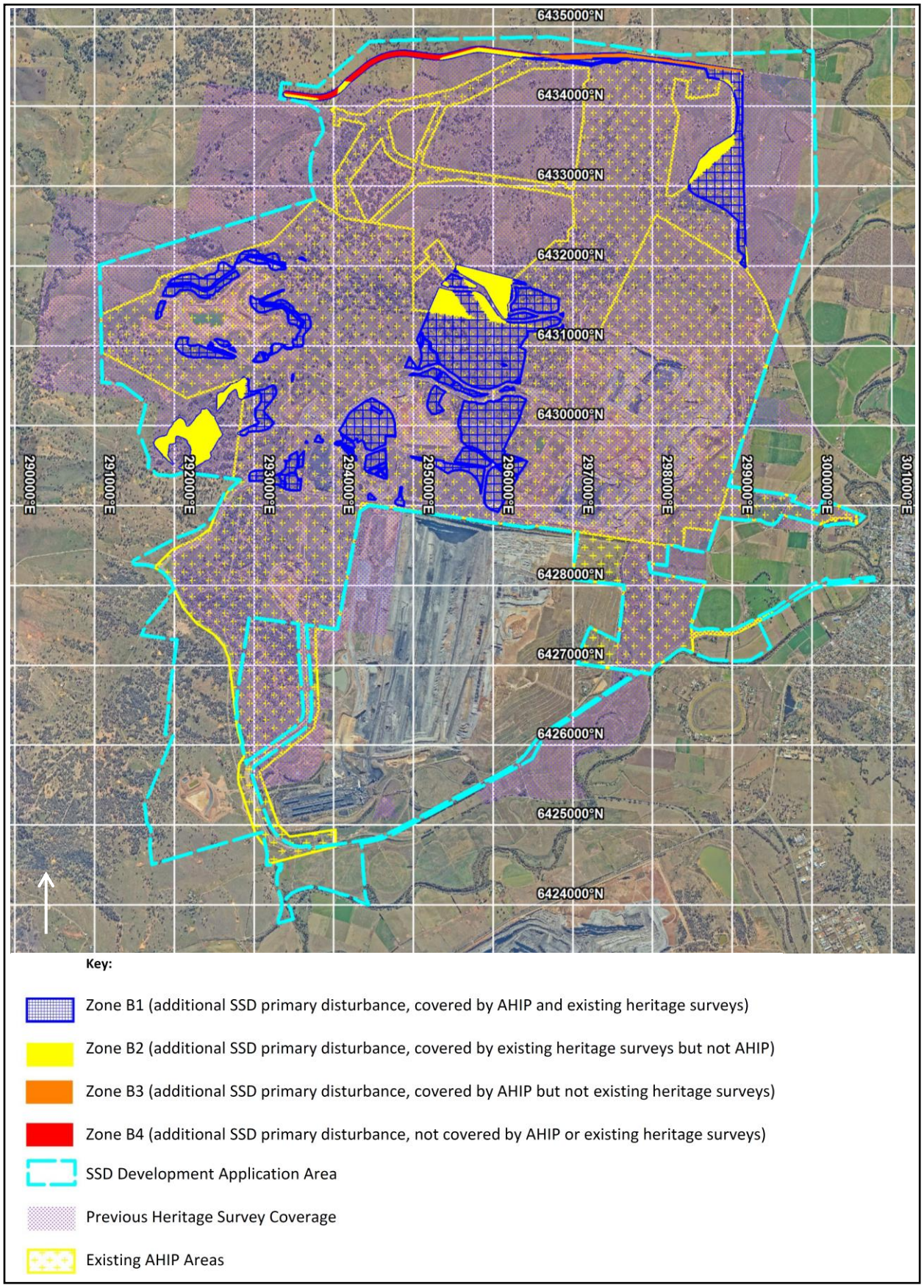


Figure 6: MPO SSD Area showing key zones (B1-B4) relating to this Aboriginal Cultural Heritage Assessment in which additional primary disturbance is proposed (aerial courtesy MACH; one kilometre MGA grid).

2. ENVIRONMENTAL CONTEXT

2.1 Location

The SSD Project Area (or 'SSD Area') is shown on Figure 7 and comprises 5,349 hectares of land immediately west of Muswellbrook. The SSD Area extends between MGA Zone 56 (GDA 94) grid reference eastings 291000 and 300800 and northings 6423700 and 6434900 on the Muswellbrook and Aberdeen 1:25,000 topographic maps.

The SSD Area differs in places from the existing approved MPO area of 5,439 hectares (refer to Figure 8).

The SSD Area predominantly comprises the existing operational MPO mining site, along with some rural-residential land previously utilised for pastoral purposes (predominantly cattle grazing). Other coal mining projects in the immediate vicinity of the SSD Area include the adjacent Bengalla Mine to the south and the adjacent Dartbrook Mine to the north, with the Mount Arthur Mining Complex further to the south and Mangoola further to the west.

2.2 Topography

The topographical context of the SSD Area is discussed to identify factors potentially relevant to patterns of Aboriginal land use. Land systems, along with other environmental information, are used in the construction of occupation models and predictive models of Aboriginal site location (refer to Sections 3.4 and 3.5). Predictive models are based upon the assumption that environmental factors provided distinctive sets of constraints which influenced Aboriginal land use patterns. Following from this is the expectation that Aboriginal land use patterns may differ between each environmental zone, because of differing environmental constraints, and that this may result in the physical manifestation of different spatial distributions and forms of archaeological evidence (Kuskie 2000).

The SSD Area is located in the upper Hunter Valley, within the region defined by Galloway (1963) as the Central Lowlands. The Central Lowlands region is described as a belt of lowlands extending through the centre of the Hunter Valley between Newcastle and Murrurundi, developed on relatively weak sedimentary rocks. It comprises an undulating or gently hilly landscape, with an abrupt transition to the steeper Southern Mountains to the south and North-Eastern Mountains to the north (Galloway 1963:92). A narrow Coastal Zone (about 100 kilometres south-east of the SSD Area) lies between the Central Lowlands and the Pacific Ocean.

The topography of the SSD Area is typically hilly and undulating, predominantly comprising gently to moderately inclined simple slopes, with gently inclined ridge crests, spur crests and hillocks, and gently to moderately inclined ephemeral drainage depressions. Mount Pleasant, at an elevation of 368 metres Above Height Datum, is situated in the north-western portion of the SSD Area and ridges descend west to the higher order Sandy Creek located marginally west of the SSD Area, and east and north to the Hunter River, located immediately east of the SSD Area. Small portions of the eastern margin of the SSD Area comprise the Hunter River floodplain. A sizeable portion of the SSD Area has now been modified through approved open cut development works.

Rich (1995) had previously categorised the original MPO EIS area (which comprises about 56% of the SSD Area) into 'land units' (refer to Figure 9).

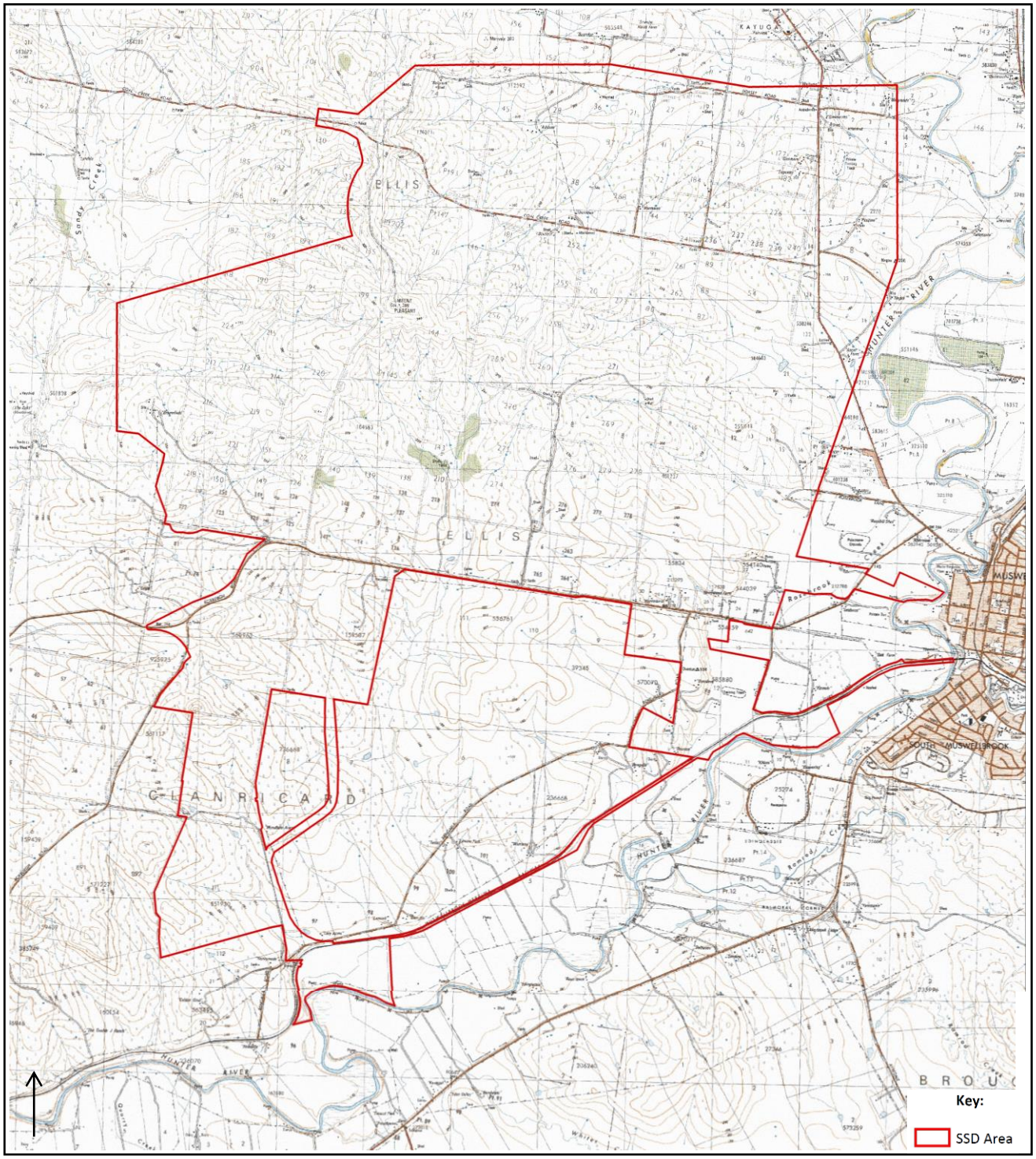


Figure 7: Topography of the SSD Area (Muswellbrook 9033-II-N and Aberdeen 9033-I-S 1:25,000 topographic maps, reduced).

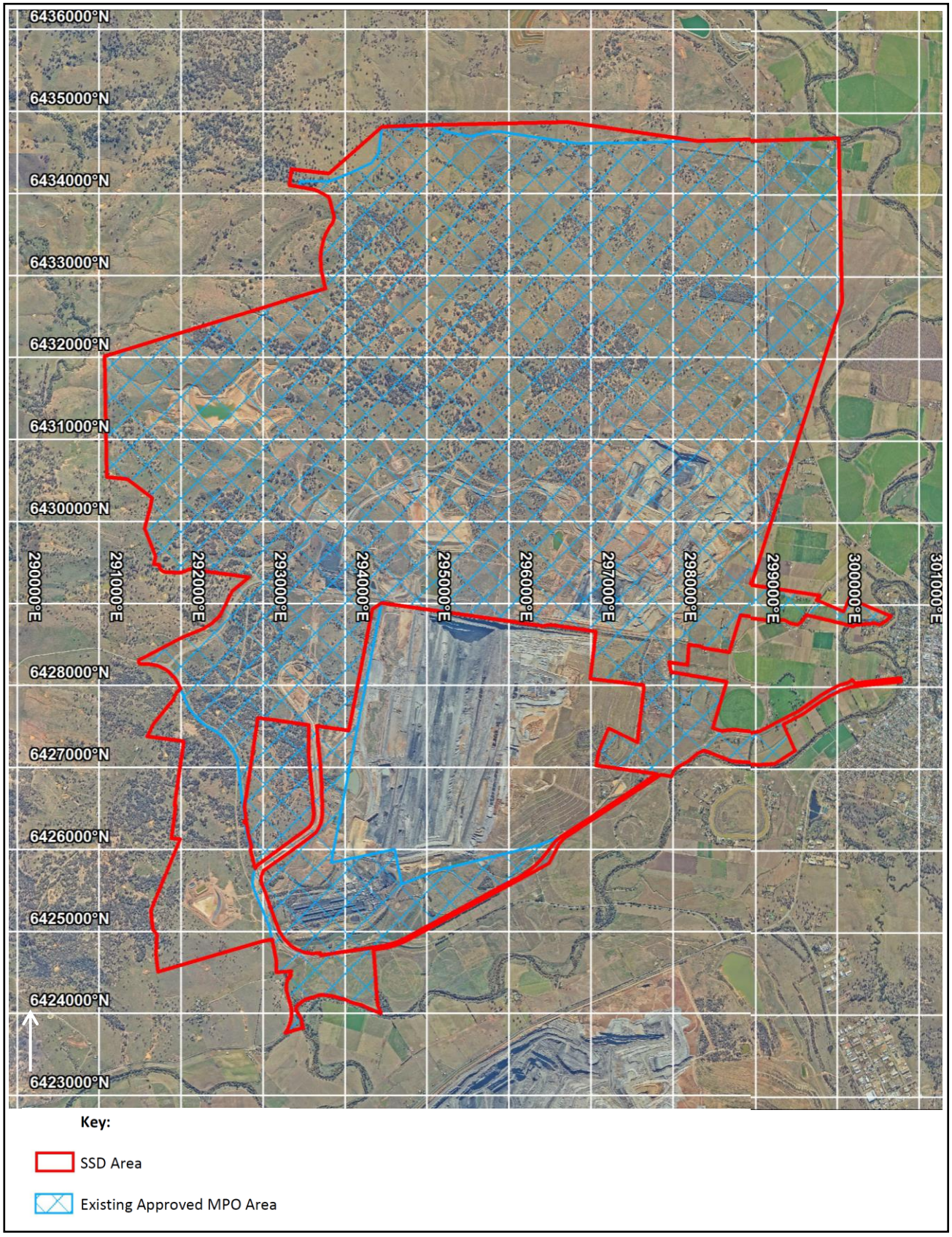


Figure 8: Differences between the SSD Area and existing approved MPO area (aerial courtesy MACH; one kilometre MGA grid).

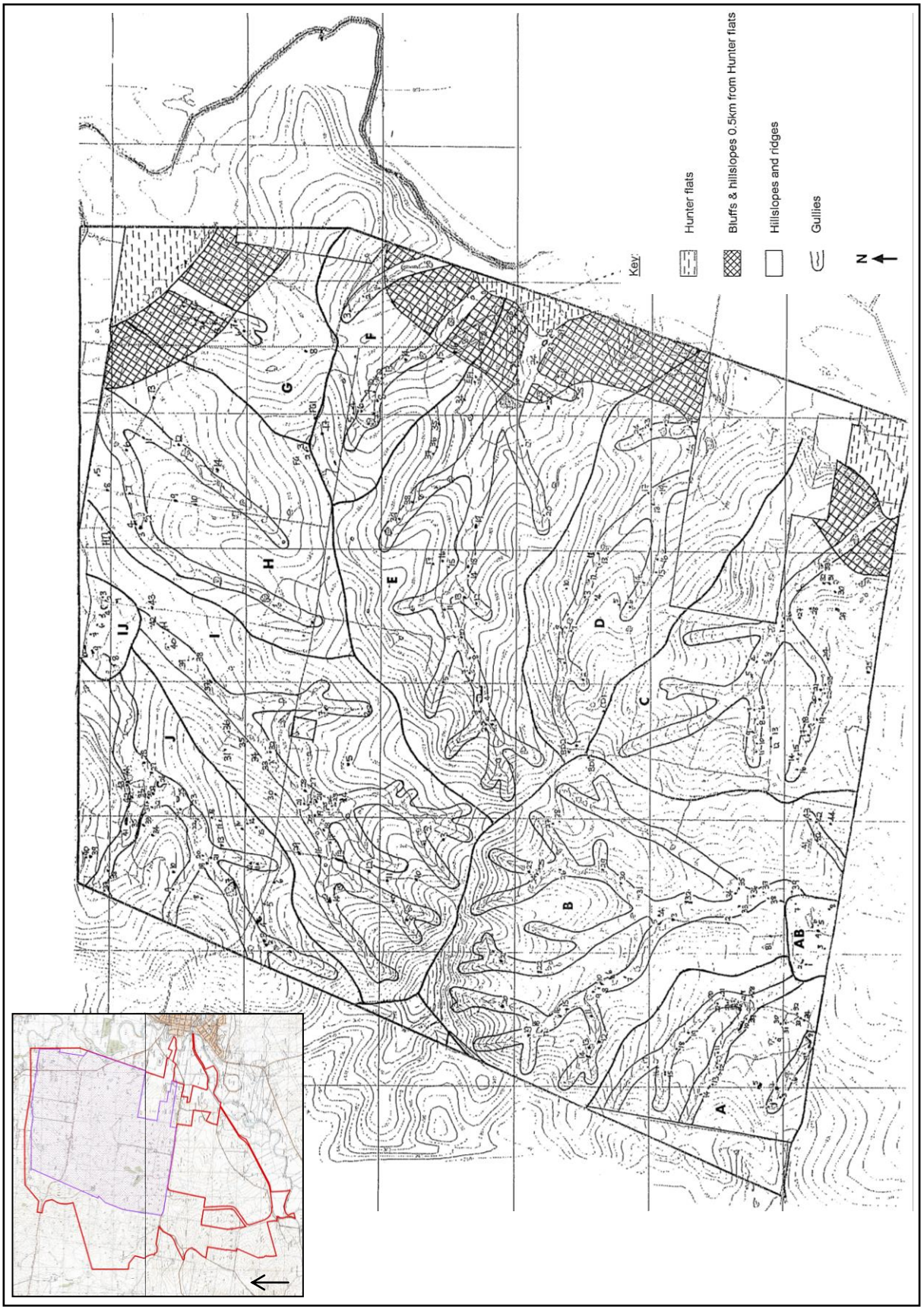


Figure 9: Land Units of Rich (1995) for original MPO EIS area (Muswellbrook 9033-II-N and Aberdeen 9033-I-S 1:25,000 topographic maps, reduced; inset – relationship of EIS area {purple shading} and current SSD Application Area {red outline}).

The land units defined by Rich (1995) comprised:

- Hunter flats;
- Bluffs and hillslopes within 500 metres of the Hunter flats;
- Gullies[8]; and
- Hillslopes and ridge tops (which covered about 71% of the area).

2.3 Geology and Soils

The nature of the local geological formations has several implications for Aboriginal land use, primarily concerning the procurement of stone materials for manufacturing and modifying stone tools.

The underlying geology of the SSD Area consists almost entirely of sandstone, shale, mudstone, conglomerate and coal of the Permian era Singleton Coal Measures (Singleton SI56-01 1:250,000 geological map). Sandstone rock formations can host evidence of Aboriginal occupation, such as deposits of artefacts and cultural material in rock shelters or overhangs, rock art on surfaces of shelters or overhangs, and grinding grooves on exposed bedrock (open surfaces) or on isolated cobbles/boulders. However, no such sites have been identified in the comprehensive heritage surveys that have been undertaken over much of the SSD Area, which indicates the generally limited presence of such sandstone rock formations.

Although much of the underlying geology of the surface investigation area consists of the Singleton Coal Measures, Quaternary clay, silt, sand and gravel deposits occur on the small portion of the SSD Area located on the Hunter River floodplain.

Silcrete, a material favoured for manufacturing Aboriginal tools, has been identified within the MPO Heritage Conservation Area A by Scarp (2010a), and adjacent to the SSD Area at Bengalla (Rich 1993) and also nearby at Mount Arthur North (Kuskie 2000). However, Rich (1995), during the comprehensive investigation for the Mount Pleasant EIS, did not report on the identification of silcrete sources directly within that investigation area (Figure 9).

Soils present within the SSD Area, along with the processes affecting them, are described to identify their nature and their relationship to the survival, location and antiquity of evidence of Aboriginal occupation.

Kovac and Laurie (1991) describe soil units based on the now superseded Great Soil Group system:

- Roxburgh Soil Landscape: Primarily Yellow Podzolic soils on upper to mid-slopes with Red Solodic Soils and Brown Podzolic Soils on upper concave slopes and Lithosols on steeper slopes, occurring across much of the SSD Area;
- Brays Hill Red Clay Landscape: Mainly Red Clays on mid to upper slopes, with Black Earths and Grey Clays on mid to lower slopes that commonly have linear gilgai. Brown Clays may also occur midslope, with Yellow Solodic Soils on the lower slopes and Alluvial Soils in drainage depressions. This landscape occurs in parts of the northern-most and north-eastern sections of the SSD Area.

[8] Essentially drainage depressions, incorporating land extending 50 metres either side of the drainage or gully.

- Hunter Alluvial Soil Landscape: Brown Clays and Black Earths on prior stream channels and on tributary flats, with Chernozems on prior stream channels, occurring along the eastern margin of the SSD Area; and

- Bayswater Soil Landscape: Yellow Loams on slopes with alluvial soils in drainage lines, occurring across small portions of the south-eastern section of the SSD Area.

Of relevance to the heritage resource, the soils of almost the entire SSD Area (excluding the Hunter River floodplain) are duplex (texture contrast) soils, with a colluvial topsoil (A unit) overlying unrelated pedal clays formed by *in situ* weathering of bedrock (B unit or horizon). Mitchell (2005) observes that in such texture-contrast soils the A unit is not related to the B unit, as it is a biomantle formed from colluvial processes (bioturbation and rainwash). Soils older than 5,000 years of age are not expected to occur within the duplex soils of the investigation area (Dean-Jones and Mitchell 1993, van de Graaff 1963, Hughes 2000).

In relation to the nearby Mount Arthur North area (Kuskie 2000, Kuskie and Clarke 2004), Hughes (2000) concluded that:

- The A horizons or units of the duplex soils covering most of the simple slopes and higher alluvial/colluvial landforms along the valleys are generally thin (less than 25 centimetres) and therefore there is limited possibility that any older heritage evidence might be present that can be distinguished from more recent evidence; and

- The B horizons of these duplex soils have negligible potential to contain Pleistocene (greater than 10,000 year old) archaeological materials as the colluvial parent materials are likely to have been in place since before the last glacial maximum and may well predate human occupation of the Hunter region. Any stone artefacts of late Pleistocene to early Holocene age which were not completely transported from the landscape would have been left as a lag at or just above the junction between the A and B horizons. These would then have become incorporated in the basal levels of present A horizons (A unit), the matrix of which is probably mid to late Holocene in age. Except where the A horizons incorporate *in situ* older, dateable deposits in their basal levels (probably extremely rare circumstances), it will not be possible stratigraphically to distinguish older artefact assemblages from mid to late Holocene assemblages.

The SSD Area comprises some depositional contexts (for example, the Hunter River alluvial flats and lower portions of slopes) but primarily it comprises areas that are erosional contexts (for example, the mid and upper portions of slopes). However it is noted that soil formation processes are complex and can vary over time in any locality (for example, episodes of major erosion in a typically depositional context). These processes can both remove, obscure or affect the integrity of archaeological evidence (particularly stone artefacts).

Sheet erosion was evident during the heritage survey conducted for this Project in a number of locations and has been widely reported in previous surveys across the SSD Area. Gully erosion was observed along a number of drainage depressions and has also been widely reported. The widespread removal of native vegetation since non-indigenous settlement has led to severe gully and stream bank erosion in the locality, accompanied by rapid deposition of sediment on the middle and lower reaches of drainages. Consequently, along the middle and lower reaches of higher order watercourses, sediment deposition in historical times may have obscured evidence of Aboriginal occupation. In contrast, evidence may have been removed in areas subject to sheet erosion (such as upper slopes and around drainage depressions). Gully and stream bank erosion may also have removed evidence, although with these processes, other evidence may have been uncovered.

2.4 Climate, Flora and Fauna

A warm temperate climate prevails in the locality. Summers are warm to hot and winters are cool to mild. In winter, the region has north-westerly winds and frosts form regularly. In summer, winds tend to be south-easterly or easterly. Autumn and spring are transitional periods with considerable rain in autumn from low-scale pressure systems in the Tasman Sea (Bridgman and Oliver 1995).

The distribution of vegetation, subsistence resources and potable water are primary factors influencing patterns of Aboriginal land use, the preservation of evidence after its deposition and the ability to detect that evidence by surface inspection.

The Hunter River is the key feature in the locality of the SSD Area, representing a permanent source of potable water and a key zone for subsistence resources. The Hunter River is located alongside the eastern boundary of portions of the SSD Area, and no part of the SSD Area is further than approximately eight kilometres from the river. The higher order watercourse of Sandy Creek is also located within one kilometre west of the SSD Area. However, water was probably available only on an ephemeral basis from the typically lower order drainages directly within the SSD Area.

European settlers extensively cleared the original native vegetation in the 1800s. Presently, much of the SSD Area is covered by grass, including native and improved pasture varieties and areas regenerating with native shrubs and trees, along with crops on the Hunter River floodplain. Remnant woodland vegetation remains to varying extents in portions of the area, although large, mature native trees are uncommon. A sizeable portion of the SSD Area has now been modified through approved open cut development works and totally cleared of vegetation.

Originally, much of the locality is likely to have been vegetated by a Eucalypt savannah woodland, dominated by Box, Gum and Ironbark. Species such as Grey Box (*Eucalyptus moluccana*), White Box (*E. albens*), Slaty Box (*E. dawsonii*), Yellow Box (*E. melliodora*), Forest Red Gum (*E. tereticornis*), Spotted Gum (*E. maculata*), Broad-Leaved Ironbark (*E. fibrosa*), oaks (*Casuarina* spp.) and Kurrajong (*Brachychiton populneum*) probably were present. A ground cover of grasses, including species such as Kangaroo Grass (*Themeda australis*), Wiregrass (*Aristida* spp.), Wallaby Grass (*Danthonia* spp.), *Chloris* spp., *Dicanthium* spp. and *Stipa* spp. (Story 1963:33), would have dominated the surface, with few shrubs. Brayshaw (1986) documents a number of early ethnohistorical observations relating to the vegetation of the region, including Cunningham's 1825 observations of lines of trees along the Hunter and Goulburn Rivers.

The woodland resource zone would have dominated much of the SSD Area, although a riparian zone may have been present on the eastern margin along the Hunter River. Table 1 contains a list of plants in the immediate locality and their potential Aboriginal uses, as compiled by Umwelt (2008) during investigation of the nearby Mount Arthur Underground Project. Anderson (2007) also reported observations of potentially useful flora and fauna within the Stage 4 section of the MPO (refer to Section 3.2.1).

The cover of vegetation within the SSD Area acts to reduce ground surface visibility and thereby reduces the potential to identify archaeological evidence solely by surface inspection. Most artefact occurrences within the Hunter Valley have only been identified when visible on exposures created by sheet erosion or ground disturbance (Dean-Jones and Mitchell 1993).

Table 1: Plant resources of the locality and potential Aboriginal uses (Umwelt 2008).

Common and *Scientific* Name	**Use**	**Reference**
amulla *Eremophila debilis* (previously *Myoporum debile*)	Food plant	MacDonald and Davidson 1998
Australian bindweed *Convolvus erubescens*	Food plant	Zola and Gott 1992: 47
berry saltbush *Einadia hastata*	Food plant	Low 1989: 129
blue flax lily *Dianella* sp. and *Dianella caeruleaa*	Food and economic plant	Low 1989: 8
boree *Acacia pendula*	Food and economic plant	Stewart and Percival 1997:8
broad-leaved cumbungi *Typha orientalis*	Food plant	Zola and Gott 1992:6
mistletoe *Amyema* sp.	Food plant	Low 1989: 14
climbing saltbush *Einadia nutans*	Food plant	Low 1989: 129
cooba *Acacia salicina*	Economic plant	Hurst (1942)
eucalypts *Eucalyptus sp.*	Economic plant	MacDonald and Davidson 1998
false sarsaparilla *Hardenbergia violacea*	Medicinal plant	Low 1989: 210
fan wattle *Acacia amblygona*	Food and economic plant	Stewart and Percival 1997:8
fishweed *Einadia trigonos*	Food plant	Low 1989:129
grass trees *Xanthorrhoea glauca* and *Xanthorrhoea johnsonii*	Food and economic plant	MacDonald and Davidson 1998
grey box *Eucalyptus moluccana*	Economic plant	MacDonald and Davidson 1998
hairy panic *Panicum effusum*	Food plant	Low 1992:85
head-ache vine *Clematis glycinoides* var. *glycinoides*	Medicinal plant	Low 1989: 151
hickory wattle *Acacia implexa*	Food and economic Plant	Stewart and Percival 1997:8
kangaroo grass *Themeda australis*	Food and economic plant	Greenway 1910:16 MacDonald and Davidson 1998 Zola & Gott 1992:58
kangaroo thorn *Acacia paradoxa*	Food and economic plant	Stewart and Percival 1997:8
kurrajong *Brachychiton polulneus*	Food, medicinal and economic plant	Zola and Gott 1992:36
many-flowered mat-rush *Lomandra multiflora*	Economic plant	Zola and Gott 1992:59
mistletoe *Amyema* spp. *Amyema congener* subsp. *congener*	Food plant	MacDonald and Davidson 1998 Zola and Gott 1992:30
narrow-leaved geebung *Persoonia linearis*	Food plant	Low 1989: 43-44

Table 1 (continued):

Common and *Scientific* Name	**Use**	**Reference**
narrow-leaved ironbark *Eucalyptus crebra*	Economic plant	pers. comm. various Aboriginal people from the Dubbo Region (2000) and shields etc. pers. obs. of scarred trees and NPWS Site cards
native flax *Linum marginale*	Food and economic plant	Low 1992:93
native geranium *Geranium* sp. *Geranium solanderi* var. *solanderi*	Medicinal plant	Zola & Gott 1992:47, 56
native pennyroyal *Mentha satureioides*	Medicinal plant	Low 1990:
native raspberry *Rubus rosifolius*	Food plant	MacDonald and Davidson 1998
native willow *Acacia salicina*	Economic plant	MacDonald and Davidson 1998
nightshade *Solanum* sp.	Food plant	Low 1992:7
panicum grass *Panicum* spp.	Food plant	MacDonald and Davidson 1998
plantains *Plantago debilus*	Food plant	MacDonald and Davidson 1998
ploughshare wattle *Acacia gunnii*	Food and economic plant	Stewart and Percival 1997:8
rough-barked apple *Angophora floribunda*	Medicinal plant	Low 1990:140
saltbush *Atriplex* sp.	Medicinal plant	Low 1992:20-21
silver stemmed wattle *Acacia parvipinnula*	Food and economic plant	Stewart and Percival 1997:8
slender rats tail grass *Sporobulus creber*	Economic plant	Cribb and Cribb 1986
rushes and sedges *Juncus & Cyperus* sp. including sticky sedge *Cyperus fulvus,* a sedge *Cyperus gracilis,* sharp rush (*Juncus acutus* subsp. *acutus, Juncus homalocaulis* and *Juncus usitatus*),	Food and/or economic plants	Low 1989:105; Zola & Gott 1992:60
swamp dock *Rumex brownii*	Food plant	Low 1989: 28, 30, 153-154
tufted bluebell *Wahlenbergia communis* and *Wahlenbergia* sp. in general	Food plant	Zola and Gott 1989.
umbrella sedge *Cyperus eragrostis*	Economic plant	MacDonald and Davidson 1998
western grey-box *Eucalyptus microcarpa*	Economic plant	NPWS site cards.
western golden wattle *Acacia decora*	Food and economic plant	Stewart and Percival 1997:8
wombat berry *Eustrephus latifolius*	Food plant	Low 1992:17 Stewart and Percival 1997:8
Yadbila grass *Panicum queenslandicum*	Food plant	MacDonald and Davidson 1998
yellow box *Eucalyptus melliodora*	Medicinal and economic plant	Stewart and Percival 1997:8
grey box *Eucalyptus moluccana*	Medicinal and economic plant	Stewart and Percival 1997:8

The preservation of archaeological evidence can also be affected by the vegetation cover, through processes known as bioturbation. Bioturbation is important in three ways: through mineral turnover in the nutrient cycle, physical movement of soil by mixing and mounding, and the creation of micro-relief (ant and termite mounds, tree-fall pits and mounds) (Mitchell 1988:52). Rainsplash on bioturbated soils can facilitate sheet erosion, the movement of fine material downslope. These processes can affect archaeological sites in several ways:

- By altering the horizontal and vertical relationship of artefacts;
- By altering assemblage contents through the effects of sheetwash erosion on small artefact size classes or by the dispersal of features such as hearths;
- By changing artefact densities through decreasing or increasing the volume of sediments; and
- By deposition of sediments burying (and therefore obscuring evidence of) archaeological deposits.

Consequently, conditions of surface visibility are generally low throughout the area, apart from in exposures created by erosion scours or ground disturbance.

Previous researchers (eg. Rich 1993) have argued that the Hunter River alluvium/flats had been subject to processes that would have obscured or destroyed most evidence of Aboriginal occupation. However, minimal systematic archaeological survey or excavation had occurred in these contexts to test such hypotheses. Recent studies (such as Kuskie 2015, 2016, Regal *et al* 2017) have indicated that archaeological evidence is present on the Hunter River alluvium/flats, on both the surface and in sub-surface contexts.

There would have existed a variety of faunal resources available for exploitation by the local Aboriginal inhabitants. Enright (1914) listed species that may have been present, including various birds, snakes, wombat, grey kangaroo, wallaroo, red wallaby, koala, bandicoot, possum, fruit bat, lizards, goanna, pademelon, flying squirrel and native cats. Freshwater fish would have been present in the watercourses, particularly the Hunter River, along with freshwater mussels and crayfish. Brayshaw (1986) reports on early settlers observations of many of these animals. Anderson (2007) reported observations of potentially useful fauna within the Stage 4 section of the MPO (refer to Section 3.2.1).

From the sources discussed above it is evident that a range of plants and animals would have been available for exploitation by Aboriginal occupants of the locality, many on a seasonal basis.

In terms of taphonomy, introduced animals such as cattle, sheep, horses, foxes, domestic dogs and cats, rats, mice, rabbits and hares may also be present or have occupied the SSD Area in recent times. Some of their activities may have promoted compaction or mixing and mounding of soil, resulting in impacts to the integrity of archaeological deposits.

2.5 Geomorphological History

Reconstructing the landscape prior to European settlement assists with understanding the nature of Aboriginal occupation in the region and the post-depositional processes that may have affected any evidence of occupation. As archaeological evidence indicates that Aboriginal people were present in the region within at least the past 20,000 years (Koettig 1987, Kuskie in prep.), information relating to changes to the regional climate, landforms and floral and faunal resources is relevant.

The Hunter Valley is a mature riverine estuary. Formation of the estuary is closely related to glacio-eustatic fluctuations in sea level that have occurred many times over the past million years. These cycles have frequencies of 100,000 years and amplitudes of 100-120 metres. The last commenced 125,000 years ago in a period of high sea levels and warm temperatures (Roy *et al* 1995). Slow cooling of temperatures and falling sea levels followed, culminating in the last glacial maximum about 24,000 to 17,000 years ago (Roy *et al* 1995:70-71, Thom *et al* 1981). The climate was much cooler and drier than at present.

Deglaciation and melting of ice sheets occurred rapidly from 18,000 years ago and the Hunter River slowly incised its valley. Most, if not all, of the upper soil units present within the investigation area were probably also removed from the predominantly erosive landscape, during periods of high run-off. Post-glacial sea levels rose quickly up to 8,000 years Before Present (BP), before slowing between 8,000 and 6,500 BP and then stabilising (Roy and Boyd 1996:11).

This information highlights the dynamic nature of environmental conditions in the locality over the possible time period of human occupation. During the last glacial maximum, 24,000 to 17,000 years ago, the climate was cooler (possibly 6-10º Celcius) and drier than at present and winds may have been strong. Potable water was probably not frequently available, other than from the Hunter River. In terms of subsistence resources and potable water, the SSD Area probably did not represent an environment conducive to Aboriginal occupation, apart from in the vicinity of the Hunter River.

From 18,000 years ago, as temperatures rose and precipitation increased, the area may have been more suitable for occupation (with a greater occurrence of ephemeral water). During the past 5,000 years the climate has been generally similar to that of the present.

Since non-indigenous settlement, the nature of the SSD Area has again been transformed, largely revolving around changes in vegetation and hydrology. Although grassy or swampy meadows or 'chains of ponds' may not have been prevalent within the area prior to European settlement, generally due to its elevation and gradient, the incised channels present in a number of drainages have only arisen since European land clearing and subsequent erosion. Nevertheless, incised channels may also have previously formed locally and temporarily from time to time in response to local changes in hydrological regime triggered by events such as storm floods or de-vegetation by severe bushfires.

2.6 Land Use History

The non-indigenous occupation of the MPO has been addressed by Tickle (2004, 2014) and Extent Heritage in relation to the SSD Project and is briefly discussed below.

The Hunter region was identified by Lieutenant John Shortland, of HMS Reliance, on 16 September 1797. The region was declared a coal and timber (cedar) reserve in 1801 (Davidson and Lovell-Jones 1993:7).

Free selecting of land commenced on a small scale on the Hunter River in 1821 or 1822 (Windross and Ralston 1897). After the penal settlement of Newcastle was transferred to Port Macquarie in 1823, Assistant Surveyor Henry Dangar was instructed to survey the valley with the view to opening it to settlement (Hartley 1995).

Within a year of Dangar's survey, all of the land along the Hunter River had been granted, sold or reserved by the government (Wood 1972:72), including 640 acres set aside for the village of Muswellbrook. By 1841, approximately 215 people resided in Muswellbrook and the railway was extended from Newcastle to reach Muswellbrook by 1869 (Tickle 2014).

The earliest land taken up in the Parish of Ellis in the locality of the MPO was by William Cox senior, with Portion 3 of 2,560 acres and Portion 4 of 1,280 acres being purchases from the Crown in 1838. However, Tickle (2014) notes that the Cox family had been in occupation earlier that this. In 1846, William Cox senior divided the land between his sons, William junior (1,370 acres), Sloper (1,190 acres) and John Hobart (1,280 acres). This gave the Cox family frontage to the western side of the Hunter River from Kayuga to Muswellbrook. Initially, grazing of sheep for wool production was their primary activity, but later cattle and horses dominated the land use (Tickle 2014).

Initial settlement further up the valley in the Central Lowlands was generally confined to the main valleys, until the 1830s. From the 1840s to 1870s settlement extended from the main valleys into the hilly terrain (Dean-Jones and Mitchell 1993:2).

Grazing sheep and cattle were typical activities of the early settlers, but along the riverine floodplains, maize, potatoes, wheat, barley and later tobacco were cultivated (Dean-Jones and Mitchell 1993:2). In the early 1900s pastoral activities became predominantly dairy orientated. The Upper Hunter Valley became an important area for dairy farming as the demand for dairy products in Australia and overseas grew as a result of mechanical separation of milk and refrigeration.

Ironbark from the area supplied much of the timber for housing. Small volumes went to a sawmill operated by the Thomas Brothers in Ford Street, Muswellbrook in the 1880s and 1890s and later in the 1930s logs were sent to Gould's mill, Singleton (Tickle 2014).

The modern landscape itself is in a sense a relic of European settlement. It reflects a sequence of occupation over the past two centuries, including initial settlement, land clearance and stock management. Recent land use practices/impacts to the locality of the SSD Area have included:

- The widespread clearing of native vegetation (possibly mostly undertaken in the 1800s including by non-mechanised means such as tree felling and ringbarking);
- Pastoral activities (including the grazing of sheep and cattle, excavation of farm dams, provision of watering troughs, windmills/wells and stockyards, residences, survey markers, fencing, establishment of pasture improved grasses and erosion control measures such as contour banks);
- Erosion of hill-slopes and watercourses and the subsequent deposition of soils on the middle and lower portions of drainage lines (subsequent to the removal of native vegetation and introduction of hoofed animals);
- Agricultural activities (cultivation of crops, particularly close to the Hunter River);
- Provision of essential services and transport (formed roads such as Wybong Road {formerly Roxburgh Road}, Castlerock Road, Dorset Road and unformed vehicle tracks, electricity transmission line easements, telecommunications cables, water and sewage);
- Recreational activities; and
- Mining (including the commencement of mining operations and infrastructure construction in the MPO by MACH and the adjacent Bengalla Mine).

Hence, the survival and integrity of Aboriginal sites may have been affected to varying extents by these activities and their subsequent effects on natural processes such as erosion.

3. ABORIGINAL ARCHAEOLOGICAL CONTEXT

3.1 Heritage Register Searches

A comprehensive review of all known Aboriginal site records within the MPO was undertaken by South East Archaeology as a component of the initial stages of this SSD Project. The review involved comparison of numerous existing overlapping databases previously maintained by RTCA and MACH, heritage reports, Heritage NSW (former OEH / BCD) Aboriginal Site Recording Forms and Aboriginal Site Impact Recording Forms, and searches undertaken on 29 October 2018 of the Aboriginal Heritage Information Management System between GDA 56 eastings 290000 - 301000 and northings 6423500 - 6435000.

The outcomes of this review were the rectification of numerous errors and inconsistencies in the previous data and development of a single MPO Aboriginal Site Database (initially Revision 1, 14 November 2018) applying to an MPO Aboriginal Site Database Area of 59 square kilometres encompassing the currently approved MPO and the initially proposed SSD Area, along with the approved Stage 1 Aboriginal Heritage Conservation Area A of 329 hectares, and the provisional Stage 2 Aboriginal Heritage Conservation Area C of 235 hectares and provisional Stage 3 Aboriginal Heritage Conservation Area B of 150 hectares (refer to Figure 10).

However, subsequent refinement of the SSD Application Area has necessitated a revision to the MPO Aboriginal Site Database (Revision 4, 21 November 2019) and Site Database Area to encompass those portions of the SSD Area outside of the initial Revision 1 Aboriginal Site Database Area[9] (refer to Figure 11). The Revision 4 MPO Aboriginal Site Database Area encompasses 63.4 square kilometres and includes the currently approved MPO, the SSD Application Area and approved Aboriginal Heritage Conservation Area A and provisional locations of Conservation Areas B and C.

During the course of this SSD Aboriginal Cultural Heritage Assessment it was identified that approximately 361 Aboriginal site locations (recorded by Rich 1995, ERM Mitchell McCotter 1996 and 1997b, and Cameron and Deacon 2016) had not been reported to AHIMS or listed on AHIMS, or incorporated into the previous RTCA maintained Aboriginal site databases for the MPO. A number of these sites have already been impacted by activities authorised under the existing AHIPs and therefore do not require further consideration for the assessment of the SSD Project impacts (refer to Section 9). A number of the sites occur in close proximity to sites that were reported to and listed on AHIMS, and therefore may effectively constitute duplicate recordings. However, a conservative approach has been adopted in this assessment that treats the locations of these sites individually (where outside of existing disturbed land) consistently with other known heritage sites in the MPO (refer to Appendix 7). As a component of this SSD Project, Aboriginal Site Recording Forms have been completed and lodged with Heritage NSW to facilitate the registration of these sites on AHIMS, and these sites have been added to the Revision 4 MPO Aboriginal Site Database[10].

Subject to SSD Approval, a further revision will be required to exclude the portions of the Revision 4 MPO Aboriginal Site Database Area that will no longer be within the approved SSD Area or approved or provisional Aboriginal Heritage Conservation Areas.

[9] Subsequent minor updates to the Site Database to address ongoing heritage management under the AHIPs resulted in Revision 3 of 11 April 2019 as shown on Figure 10.

[10] Where the site is located within the MPO Aboriginal Site Database Area (five sites are outside of the Database Area).

During the course of this SSD Aboriginal Cultural Heritage Assessment it was also identified that some researchers had applied inconsistent and contradictory open artefact site definitions, including some definitions that were not consistent with standard RTCA definitions at the MPO (refer to Section 3.2.1). For example, in the Broomfield Conservation Area study, Scarp (2010a) reported single 'broad-area' sites, many of which represent multiple spatially separate individual locations of evidence.

To address this issue, along with the recognition that a single grid reference does not adequately represent the true spatial extent of many of the identified open artefact sites (which can often extend over reported distances of many hundreds of metres), a GIS layer has been created during this assessment. The "MPO Open Site Shape Layer" has been created as an essential supplement to the MPO Aboriginal Site Database to show the true spatial extent of open artefact sites (where relevant reported information is available) that have not yet been subject to salvage and/or impacts[11] (refer to Appendix 4).

Details of the known Aboriginal sites and Potential Archaeological Deposits (PADs) within the Revision 4 MPO Aboriginal Site Database Area are summarised in Table 2 (including the seven previously unreported sites located during the present survey). Over 1,900 heritage sites have been recorded within the MPO Aboriginal Site Database Area (refer to Figure 4 and below), including approximately 1,909 open artefact sites (albeit a number represent overlapping recordings). Many of the heritage sites that are situated in approved impact areas have already been subject to salvage (RPS 2018, Kuskie 2020) and/or subsequent impacts. A list of all sites within the SSD Area is presented in Appendix 7 and locations are shown on detailed mapping in Appendix 4.

Other contemporary cultural values have also been identified during the course of various heritage assessments, relating to attachment of the Aboriginal stakeholders to the land, floral and faunal resources, water sources and the identified heritage evidence (refer to Section 3.2).

Table 2: Summary of Aboriginal site types and potential deposits known within the MPO Aboriginal Site Database Area (Revision 4 MPO Aboriginal Site Database 21 November 2019).

Site Type	Number of Sites
Artefact Scatter	910
Artefact Scatter with PAD	28
Isolated Artefact	950
Isolated Artefact with PAD	9
Non-Site[12]	41
Open Artefact Site	12
Scarred Tree	13
Scarred Tree and Isolated Artefact	1
Spiritual Place	1
Total	1965

[11] Sites that have already been subject to impacts and/or salvage, or for which relevant reported information is not available, have not been incorporated into the Open Site Shape Layer.

[12] Various 'sites' (predominantly scarred trees) have previously been reported, but subsequent reassessment has determined that they are not related to Aboriginal occupation and do not comprise Aboriginal objects (refer to Section 3.2.1).

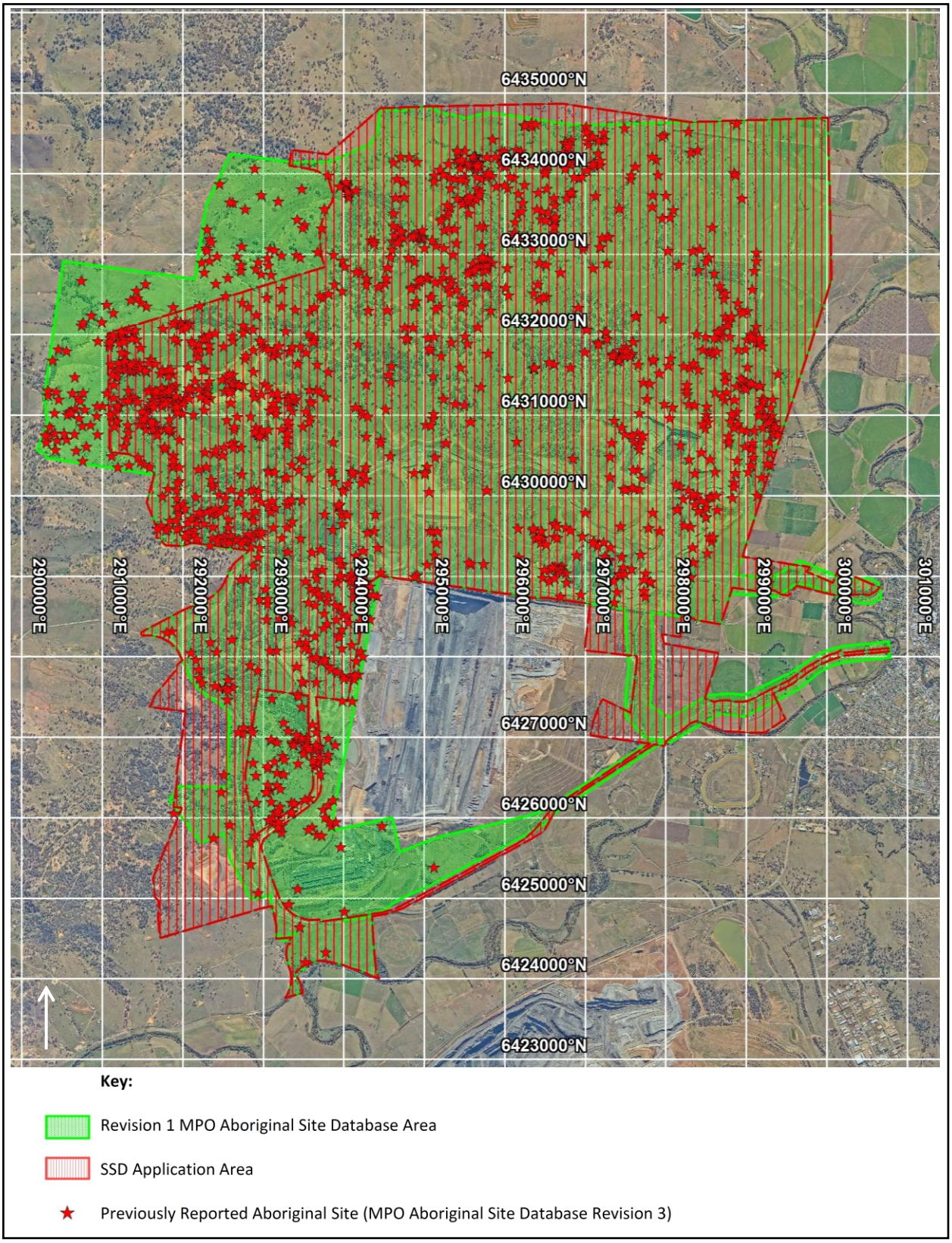


Figure 10: SSD Area and Revision 3 MPO Aboriginal Site Database Area 11 April 2019 (areas shaded red outside of the Revision 3 MPO Aboriginal Site Database Area are incorporated in the Revision 4 MPO Aboriginal Site Database Area as part of this assessment – refer to Figure 11).

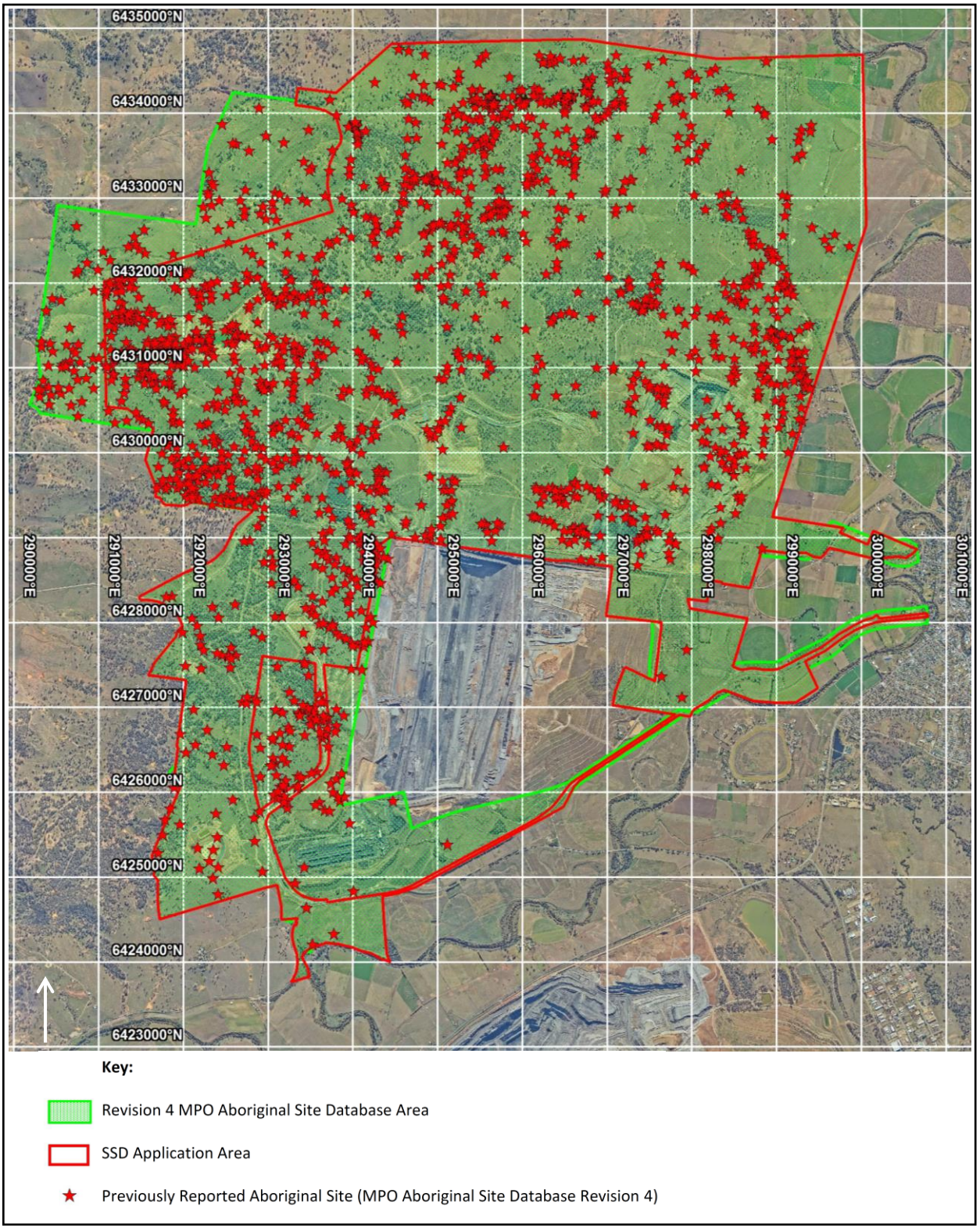


Figure 11: SSD Area and Revision 4, 21 November 2019 MPO Aboriginal Site Database Area, revised to encompass those portions of the SSD Area outside of the initial Revision 1 Aboriginal Site Database Area (refer to Figure 10).

No Aboriginal heritage sites are listed within the SSD Area on any other heritage registers or planning instruments, including the *Muswellbrook Local Environmental Plan 2009*, *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* or the *EPBC Act 1999* (Commonwealth Heritage List or National Heritage List) or NSW State Heritage Register[13]. Non-indigenous heritage listings are addressed separately by Extent Heritage.

3.2 Previous Archaeological Research

As detailed below, extensive heritage survey coverage has already been achieved across the MPO and SSD Area, *including across almost all areas in which additional primary disturbance is proposed under the SSD Project* (refer to Figures 4, 5 and 6).

The currently approved AHIPs cover much of the MPO area, including areas currently approved for impacts and additional impact areas proposed under the SSD Project (refer to Figures 3, 5 and 6). Almost all of the additional primary disturbance area of the SSD Project that is not covered by existing AHIPs has been subject to heritage survey during the assessments that formed the basis of the existing AHIP approvals (refer to Figure 5). Only 22.4 hectares of the additional primary disturbance area of the SSD Project has not been subject to heritage survey (part of which however is covered by existing AHIPs), and these areas (Zones B3 and B4 on Figure 6) are the focus of the present field investigation and were intended to be subject to heritage survey as a component of this SSD assessment (refer to Sections 4 and 5).

A number of Aboriginal heritage investigations have been undertaken within the vicinity of the SSD Area, principally for environmental assessments relating to development proposals, particularly for the MPO. Brief discussion of the most relevant investigations will highlight the range of site types and variety of site contents in the region, identify typical site locations, and assist with the construction of a predictive model of site location for the investigation area. These previous investigations include:

- Rich (1995) investigated the 33 km^2 area of the Mount Pleasant Coal Lease in 1994, with 327 open artefact sites identified and 1,408 artefacts recorded;
- ERM Mitchell McCotter (1996) investigated the North-West Emplacement Area for the Mount Pleasant EIS, with 24 open artefact sites identified and 79 artefacts recorded;
- ERM Mitchell McCotter (1997b) investigated the Fine Rejects Emplacement Area for the Mount Pleasant EIS, with 86 open artefact sites containing 3,952 artefacts identified, along with four scarred trees (one also combined with an isolated artefact);
- Six subsequent surveys were undertaken at the MPO, as part of more detailed surveys extending across much of the project area. These were subdivided into 'stages', as follows:
  - Stage 1 at the MPO surveyed by HLA-Envirosciences (2007), with 66 open artefact sites and seven potential scarred trees reported;
  - Stage 2 at the MPO was surveyed by McCardle (2007), with 209 open artefact sites (containing approximately 604 artefacts), eight potential scarred trees and two potential hearths reported (including re-recording of several previously reported sites);

[13] The *Hunter Regional Environmental Plan 1989 (Heritage)* referred to in Attachment 1 of the SEARs has been repealed and is not in effect.

- Stage 3 at the MPO was surveyed by Roberts (2007), with approximately 346 sites reported, predominantly open artefact sites (with 1,802 artefacts recorded) but also at least six scarred trees and several 'spiritual' sites, however it is uncertain if this total included re-recording of previously reported sites. Part of this area (and a number of Aboriginal sites) are located outside of the approved MPO, SSD Area or Heritage Conservation Areas;
- Stage 4 at the MPO was surveyed by Anderson (2007), with approximately 384 sites reported (and over 1,014 artefacts noted in 277 of the sites[14]), including 216 artefact scatters, 164 isolated artefacts, one open artefact site and three scarred trees, but it is uncertain if this included re-recording of previously reported sites;
- Stage 5 at the MPO was surveyed by Selimiotis and Slack (Scarp Archaeology 2009), with 133 open artefact sites (applying an unconventional definition based on artefact density) and three potential scarred trees reported. Following conventional definitions, 216 sites were recorded, with 256 artefacts reported;
- Stage 6 at the MPO was surveyed by Selimiotis (Scarp Archaeology 2012), with 35 open artefact sites (applying an unconventional definition based on artefact density) and one possible scarred tree reported;

- The then proposed MPO Broomfield Aboriginal Cultural Heritage Conservation Area of 506 hectares was investigated by Selimiotis and Slack (Scarp Archaeology 2010a) with 96 open artefact sites (applying an unconventional definition based on artefact density) and eight scarred trees reported. Following conventional definitions, 327 sites were recorded, with 2,370 artefacts observed;
- Central Queensland Cultural Heritage Management (CQCHM 2010) conducted an assessment for Modification 1 of the MPO approval, including an archaeological survey reported by Scarp Archaeology (2010b) of a proposed conveyor/service corridor that documented 61 open artefact sites (applying an unconventional definition based on artefact density), with 186 artefacts observed, and three scarred trees;
- Selimiotis (Scarp Archaeology 2015) investigated an additional 45 hectare area for the MPO conveyor/service corridor, with five open artefact sites and seven scarred trees reported;
- Cameron and Deacon (2016) of Rio Tinto Coal Australia prepared a cultural heritage assessment overview report for the MPO to accompany an AHIP application made by RTCA, which was later issued by the OEH as AHIP #C0002053. Test excavations were undertaken in 11 PADs, with two new sites identified;
- Kuskie (2016) undertook a due diligence investigation of a 12 hectare area for a proposed water supply pipeline route and pump station, with two open artefact sites identified;
- Kuskie (2017a) and Burns (2017a) reassessed four previously reported scarred trees (MTP-51, MTP-77, MTP-99 and MTP-111) within the MPO, with all determined not to be of Aboriginal origin;
- Kuskie (2017b) and Burns (2017b) reassessed 11 previously reported scarred trees (MTP-56, MTP-75, MTP-81, MTP-340, MTP-577, MTP-781, MTP-825, MTP-901, MTP-1269, MTP-1274 and MTP-1732) within the MPO, with all determined not to be of Aboriginal origin;

[14] Due to a page duplication error in the report, details of 109 sites (MTP-979 to 1087) were not visible.

- Kuskie (2017c) and Burns (2017c) reassessed three previously reported scarred trees (MTP-484, MTP-515 and MTP-528) within the MPO, with all determined not to be of Aboriginal origin;
- Kuskie (2019) and Burns (Global Soil Systems 2019) reassessed 19 previously reported scarred trees (MTP-124, MTP-146, MTP-153, MTP-161, MTP-162, MTP-213, MTP-259, MTP-263, MTP-365, MTP-370, MTP-1094, BCA-008, BCA-050, BCA-071, BCA-072, BCA-077, BCA-078, BCA-080 and BCA-084) within the MPO, with all determined not to be of Aboriginal origin;
- Regal (*et al* 2017) conducted an assessment for a Modification to the MPO approval, involving rail, product loading and water supply infrastructure. Survey and test excavations were undertaken, focused on a 216 hectare area, resulting in the identification of five open artefact sites;
- An ACHMP was initially prepared by RTCA (2014) for the MPO to address the DA92/97 approval conditions. It has largely been superseded by the revised AHMP prepared by MACH Energy (2017) that was approved by the then DP&E on 5 July 2017;
- RPS (2018) conducted salvages between September and November 2016 of sites under AHIP #C0002053 at the MPO, with 616 sites subject to surface collection and 5,185 artefacts retrieved. Excavations were undertaken at seven sites, with 98 artefacts recovered;
- South East Archaeology (Kuskie 2020) salvaged between December 2018 and February 2019 approximately 47 open artefact sites by surface collection, and six of these sites by salvage excavation, within part of the area to which AHIP #C0002092 applies, with 1,125 artefacts retrieved;
- Niche (2019a) undertook a due diligence investigation of a proposed 66 kV electricity transmission line realignment immediately east of the MPO, with inspection of a 1.5 kilometre route south of Kayuga Road to just south of Rosebrook Lane. No Aboriginal sites were located;
- Niche (2019b) undertook a due diligence investigation of several small sections (totalling 750 metres in length) of a proposed clean water diversionary drain within the northern portion of the MPO, outside of existing AHIP areas. No Aboriginal sites were located;
- Effenberger (1993) surveyed an electricity transmission line easement between Kayuga and the Hunter River, with three open artefact sites identified between Castlerock Road and Wybong Road;
- Ruig (1993) surveyed a Telstra optic fibre cable route from Castle Rock to Muswellbrook, along Castlerock Road, with two isolated artefacts and one open artefact site identified;
- Rich (1993) surveyed a 13 km^2 area for the Bengalla open cut coal mine, immediately adjacent to the MPO, during November and December 1992, with 58 open artefact sites identified and 1,760 artefacts recorded;
- White (nee Rich, 1998) conducted salvage excavations and analysis of two sites, B10 (#37-2-579, a quarry site) and B33 (#37-2-602, an artefact scatter) as part of the Section 90 Consent for Bengalla Mine, with 5,341 artefacts retrieved;
- ERM (2007a, 2007b) investigated a link road at Bengalla and undertook salvage by surface collection of open sites under the Bengalla AHIP, with additional salvage of sites along the link road reported by ENSR Australia (2008);

- Further investigations at the adjacent Bengalla Mine were undertaken for the Continued Operations Project (AECOM 2013), involving a survey focused on an extension of open cut mining to the west of existing operations, within a study area of 1,356 hectares. A total of 54 previously unrecorded open artefact sites were identified and 1,098 artefacts recorded; and
- AECOM (2017) reported on additional salvages at Bengalla Mine, including surface collections and salvage excavations.

3.2.1 Mount Pleasant

Mount Pleasant Initial Survey (Rich 1995)

Rich (1995) surveyed the Mount Pleasant lease for the proposed MPO coal mine and associated infrastructure development. The 3,300 hectare investigated by Rich (1995) is shown on Figures 4, 9 and 12 and comprises about 56% of the SSD Area.

As discussed in Section 2.2 and shown on Figure 9, Rich (1995) had categorised the EIS area into 'land units', comprising the Hunter flats, bluffs and hillslopes within 500 metres of the Hunter flats, gullies (incorporating land extending 50 metres either side of the drainage or gully) and hillslopes and ridge tops (which covered about 71% of the area).

Rich (1995) conducted a 50 person day survey over eight days between May and June 1994, with representatives of the Wanaruah Local Aboriginal Land Council and the Wonnarua Tribal Council. The survey sampled across the MPO EIS area, apart from 250 hectares in which access was unavailable, and typically involved three teams inspecting parallel transects (refer to Figure 13). However, coverage was largely focused on the drainages, which were subdivided into catchments, rather than the slopes and crests (Figure 13). Effective survey coverage area was estimated as being 1.3% of the area and was limited by the dense grass cover (Rich 1995).

A total of 327 sites were identified during the survey, comprising isolated finds and artefact scatters, with a total of 1,408 artefacts recorded. Rich (1995) reports that 180 locations were isolated finds, with 67 open sites containing only two or three artefacts, and only 26 open sites containing more than ten artefacts. Rich (1995) noted that while further artefacts and sites would be present, that were currently obscured by vegetation and/or soil, "compared to some other parts of the Hunter, the Mt Pleasant lease appears to have a fairly sparse archaeological record".

Rich (1995: Appendix C) only lodged Aboriginal Site Recording Forms with the then NPWS for 30 major sites or site complexes (refer here to Table 3), comprising about 82 individual sites. Rich (1995: Appendix C) stated that "National Parks and Wildlife Service site forms have been prepared for these substantial sites, or complexes of locations where it is considered that exposed artefacts might be linked by archaeological deposits. In keeping with usual procedures NPWS site forms have not been completed for very sparse or 'isolated' finds". Hence, Aboriginal Site Recording Forms were not lodged with the NPWS for approximately 244 sites.

While artefact density appeared to be higher around the gullies (55 artefacts per hectare of exposure) than on the hillslopes and ridges (17 artefacts per hectare of exposure), the overall artefact density was assessed by Rich (1995) as being somewhat lower than some other parts of the Central Lowlands, and only representing about 36 artefacts per hectare of exposure (inferred here to represent per 10,000 m^2 of effective survey coverage).

Table 3: Rich's (1995: Appendix C) list of "substantial sites, or complexes of locations where it is considered that exposed artefacts might be linked by archaeological deposits" for which site records were lodged with AHIMS[15].

AHIMS ID#	Site Name (Rich 1995)
37-2-1467	A1-A4
37-2-1468	A7-A8
37-2-1469	A33-A34
37-2-1471	B21
37-2-1472	B22
37-2-1473	B23
37-2-1474	B29
37-2-1475	B32
37-2-1463	B36
37-2-1464	C1
37-2-1465	C5
37-2-1466	C20
37-2-1470	E2
37-2-1476	E4
37-2-1477	E11-12
37-2-1478	E19
37-2-1479	E22
37-2-1480	F7-8
37-2-1481	H6
37-2-1482	I1-3
37-2-1483	I4; I17-27
37-2-1485	I5
37-2-1484	I14
37-2-1486	I37
37-2-1487	I42
37-2-1488	IJ 1-10
37-2-1489	J4
37-2-1490	J19-J35
37-2-1491	J41
37-2-1492	J42-44

The highest artefact densities occurred in the north-western part of the study area, in Catchments I and J (65 and 61 artefacts per hectare of exposure) and their confluence near Dorset Road, which had a very high density of 1,063 artefacts per hectare of exposure, a result Rich (1995) attributed to the presence of microblade workshops or knapping floors, a variation in the nature of occupation compared to the remainder of the area (refer to Figure 12).

[15] All sites were incorrectly listed on AHIMS as being an AGD datum but a GDA grid reference.

Rich (1995) did not locate any artefacts on the slopes of Mount Pleasant above 300 metres AHD or on the Hunter River flats. Rich (1995) interpreted the results as partially relating to ground disturbance closer to the Hunter River having removed or destroyed evidence. However, Rich (1995) also noted that artefact density variations may have related to variation between recorders and 'irregular' ground exposure.

Two dominant stone materials were identified during the survey, silcrete (comprising 58.2% of the combined assemblage) and 'indurated mudstone' (tuff, comprising 27.8% of the combined assemblage). Other fine grained siliceous stone (4.8%), volcanics (5.1%), quartz (3.6%) and quartzite (0.5%) were also reported by Rich (1995).

While silcrete appeared to be to twice as common as tuff (to which Rich ascribed to the proximity of a potential source of silcrete at Bengalla), tuff appeared to proportionally favoured for implement manufacture (ie. for backed or other retouched artefacts). Unlike at the adjacent Bengalla, sources of silcrete were not identified within the MPO by Rich (1995) (although have subsequently been found there by Scarp 2010a).

Rich (1995) reported that the combined assemblage was dominated by flakes (39.1%), 'other pieces' (44.8%) and cores (7.4%), with retouched/utilised pieces (5.8%), backed pieces (1.2%), pebble tools (1%), bipolar items (0.4%) and axes (0.2%). Approximately 90.6% of the assemblage was noted as being less than 50 millimetres in maximum dimension.

Rich (1995) found that dispersal of stone implements varied, with backed artefacts predominantly located within the gully areas but pebble tools and hatchet heads more widely spread over the landscape. However, only 14 of the latter items were identified, a small sample from which to make any inferences.

Based on artefact typology, Rich (1995) concluded that the evidence related to the last 4,000 or 5,000 years. The presence of a 'black' glass retouched/utilised piece from site IJ5 was interpreted by Rich (1995) as evidence of an occupation event on the I-J confluence in the north-western portion of the study area in the period around 1790-1830.

Rich (1995) made some tentative conclusions about the distribution of evidence in relation to occupation models, but acknowledged that due to various limitations in the data, it was problematic to draw firm inferences.

Rich (1995) concluded that in general, the MPO EIS area did not contain a substantial archaeological resource, and that artefact evidence was generally sparse and the eastern portions near the Hunter River flats had been substantially disturbed by previous land use. Rich (1995) assumed that areas of heritage potential were confined to areas of lower disturbance within the upper and middle catchments in the west, and small areas in the lower reaches of catchments in the north/north-west, noting that "the lease appears to have some potential to provide information on the way Aboriginal people organised their activities in the landscape" and that "the middle and lower reaches of Catchments I and J have the potential to provide specific additional information on regional issues of backed blade stone technology". However, Rich's (1995) primary conclusion was that "most of the Mt Pleasant coal lease…is of low archaeological potential".

While Rich (1995) presented detailed discussion of individual catchments in Part 2 of the report and detailed management recommendations, virtually no site-specific significance assessments were presented (other than the general conclusions above). Impacts were assessed and a list of site locations likely to be affected by the proposed development was provided by Rich (1995) as Appendix E7.

Rich (1995) presented recommendations for:

- Design where possible to avoid impacts to Aboriginal sites, particularly within less disturbed areas;
- Reassessment of the list of specific sites to be impacted after detailed design;
- Protective measures for sites not intended to be impacted;
- A Section 90 Consent (AHIP) for the impact area subject to archaeological salvage as outlined by Rich (1995: Section 8.2, Table 18 and Map 9 – reproduced here as Table 4 and Figure 14);
- A plan of management outlining how sites and areas not affected by development would be protected;
- Obtaining the views of the Wanaruah Local Aboriginal Land Council; and
- If the development did not proceed, management of continuing rural land use.

Table 4: Rich's (1995: Table 18) recommendations for further archaeological investigation.

Part of lease	Part of landscape	Gully or hillslope	Locations	Comments
middle-east	**upper catchments** > 190m in C; > 220m in E.	gully banks & hillslopes high in catchments	• C6-C11 • E2-E4	• Collect low density sparse finds, including RU pieces and cores, possibly representative of casual & infrequent resource use in upper parts of catchment C • Surface collection & exploratory excavation at E2-E4 to investigate focussed occupation relatively high in catchment E.
	middle catchments 165-190m asl in C; <215m in E.	gully	• C1 & C5 • E6-12	• Recovery of isolated knapping events at C1 and C5 • At E6-E12 and vicinity. One of the less disturbed parts of the lease (continuous with E2-E4). Work should include surface collection, geomorphological investigations & excavation as appropriate.
north-east part	**lower** c.175m asl	gully	• H6 & vicinity	• This is the only location in the north-east part of the lease with possible archaeological potential. Exploratory excavation should be carried out (eg. mechanical stripping / trenching) to determine the extent of past disturbance with archaeological salvage as appropriate.
north-west part	**upper** 255-280m asl	gully	• I1-I3 (x • I14	• Collection, exploratory excavation at I1-I3 to determine the extent of past land disturbance with appropriate salvage (including a no-salvage option). • Collect I14 (with backed piece) for reference
	middle 205-240m asl	gully gully, confluence & spur/ hillslope	• I4, I17-I27 • J22-J35 • J41-J44	• Surface collection, geomorphological investigations, exploratory excavation and salvage excavation as appropriate. • Archaeological investigations, including surface collection, geomorphological assessment, test excavation and salvage excavation, should be carried out across the confluence of the two arms of drainage line J, and along the right bank of the main drainage line. • Surface collection of artefacts from J41-J44 for reference collection, given presence of backed items.
	lower 170-185m	gully, flat & footslope	• I38-I42 • I-J confluence (IJ1-9)	• Exploratory subsurface investigations should be carried out in the vicinity of I38-I42 to assess the potential of those locations. Salvage excavation as appropriate. • Exploratory excavation (eg. mechanical stripping/trenching) should be carried out across the I-J confluence to determine the extent of past disturbance in this high density area; archaeological salvage as appropriate.
Other			• D1 axe • E33 axe • F14 pebble tool • I33 pebble tool	• Collect other rare axes/pebble tools which would be affected.

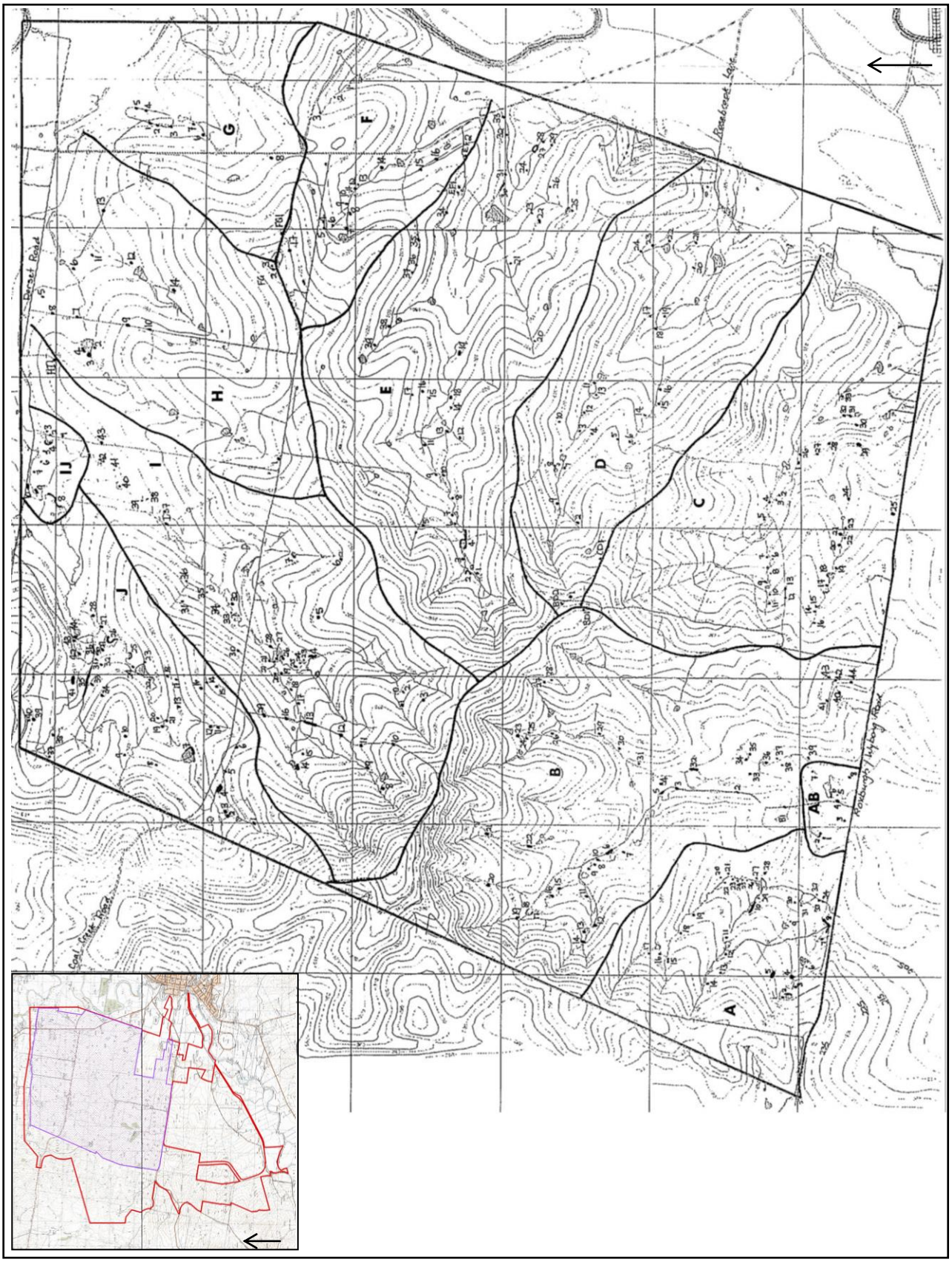


Figure 12: Rich's (1995) MPO EIS Aboriginal site locations and creek catchments (Muswellbrook 9033-II-N and Aberdeen 9033-I-S 1:25,000 topographic maps, reduced; inset – relationship of EIS area {purple shading} and current SSD Application Area {red outline}).

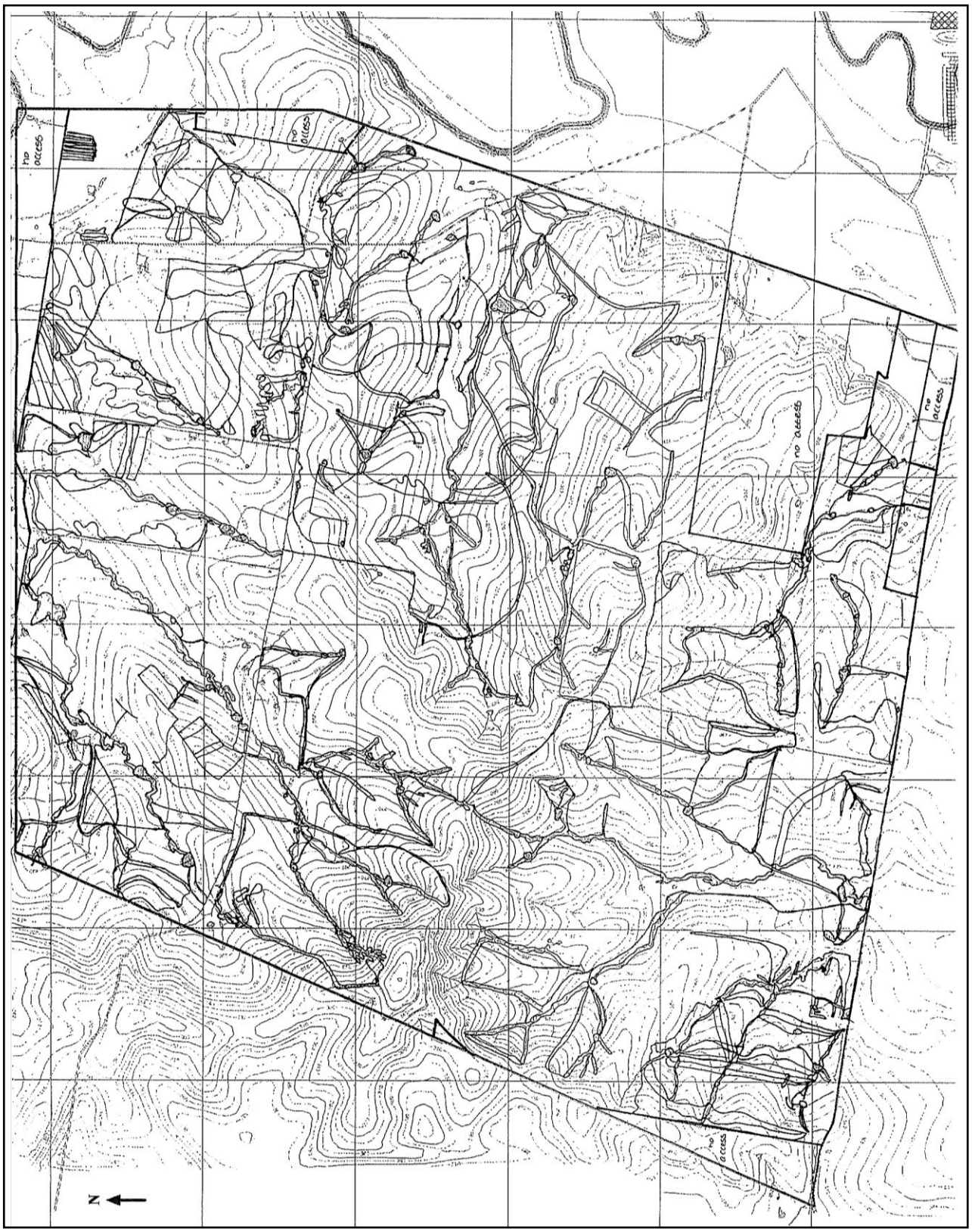


Figure 13: Rich's (1995) MPO EIS survey transects (Muswellbrook 9033-II-N and Aberdeen 9033-I-S 1:25,000 topographic maps, reduced).

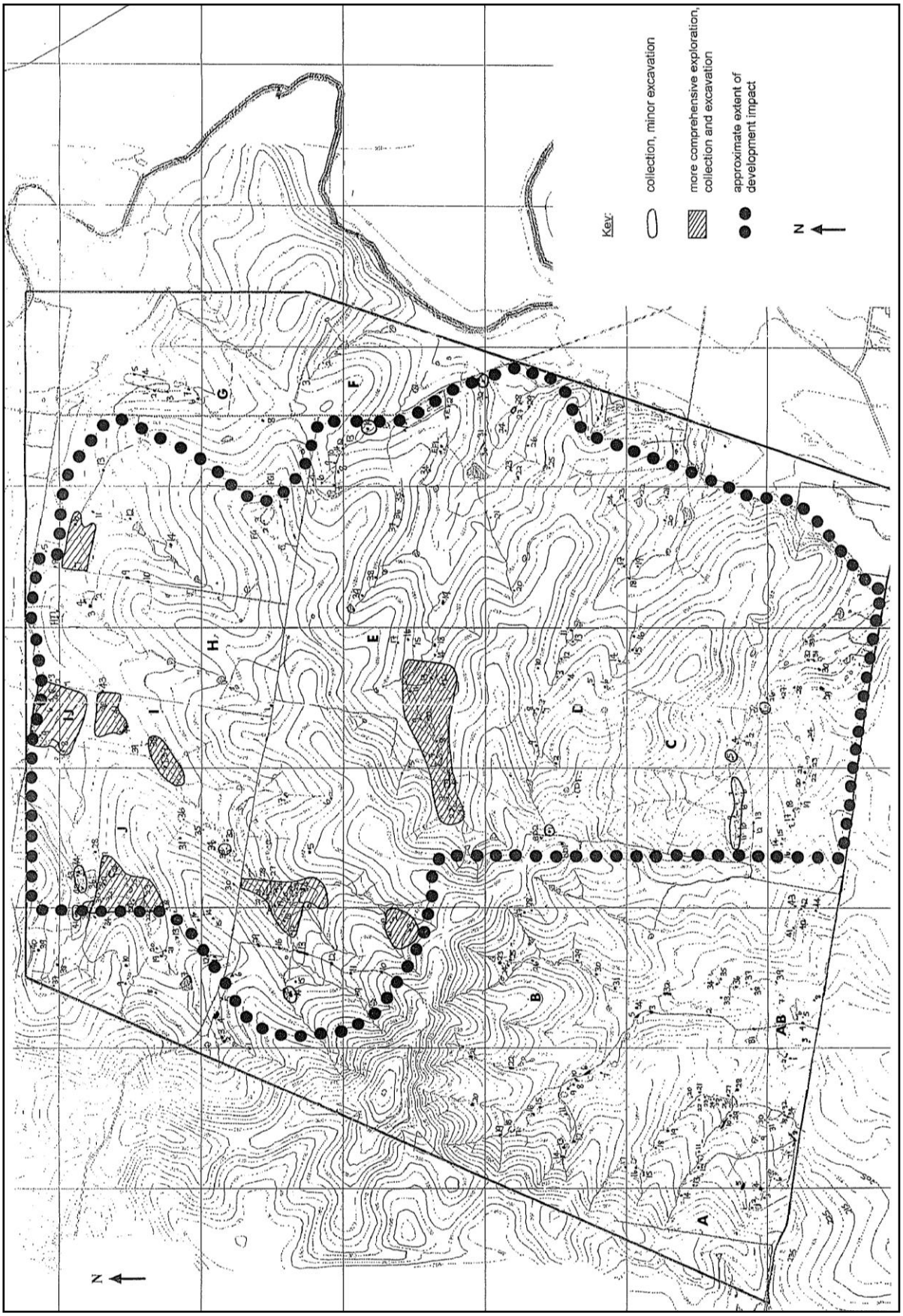


Figure 14: Rich's (1995) MPO EIS recommended locations for heritage salvage (Muswellbrook 9033-II-N and Aberdeen 9033-I-S 1:25,000 topographic maps, reduced).

Mount Pleasant North-West Emplacement Area (ERM Mitchell McCotter 1996)

ERM Mitchell McCotter (1996) undertook an investigation to the north-west of the Mount Pleasant Authorisation for a proposed 'North-West Emplacement Area' (refer to Figure 15).

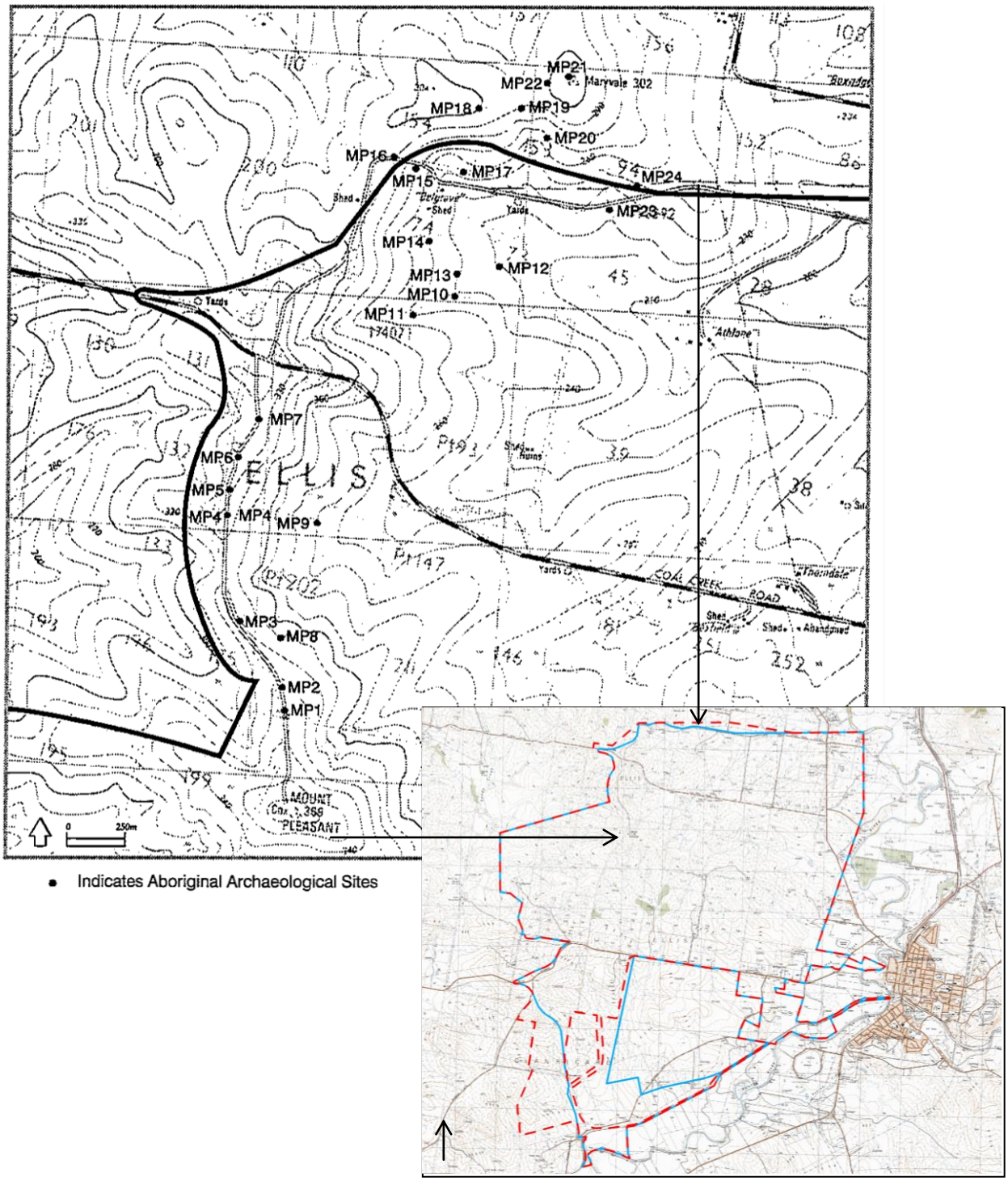


Figure 15: Location of the MPO North-West Emplacement Area Aboriginal sites of ERM Mitchell McCotter (1996: Figure 1) (inset – approximate location with MPO SSD Area - Muswellbrook 9033-II-N and Aberdeen 9033-I-S 1:25,000 topographic maps, reduced).

A total of 24 Aboriginal sites, all open artefact scatters, were identified during the survey (MP1 - MP24). It appears that none of these sites were registered on AHIMS or incorporated into previous RTCA maintained Aboriginal site databases for the MPO. As a component of this SSD Project, Aboriginal Site Recording Forms have been lodged with Heritage NSW to facilitate the registration of these sites on AHIMS, and these sites have been added to the Revision 4 MPO Aboriginal Site Database[16].

ERM Mitchell McCotter (1996) report that a total of 79 artefacts were found in the 24 sites, with most sites (11 or 46%) containing between two and four artefacts, with nine isolated artefacts, three sites with between five and ten artefacts and one site with more than ten artefacts. Artefacts recorded were flakes, flaked pieces and cores.

ERM Mitchell McCotter (1996) assessed the sites as being of low archaeological significance, and the potential of the area as generally low.

Mount Pleasant Fine Rejects Emplacement Area (ERM Mitchell McCotter 1997b)

ERM Mitchell McCotter (1997b) undertook further investigation at the MPO for an EIS into the proposed Fine Rejects Emplacement Area (refer to Figure 16). A modification at the time to the mine plan meant that fine rejects would be implaced in an area west of the then Authorisation and a rail loop would be constructed south of the infrastructure area.

ERM Mitchell McCotter (1997b) undertook a heritage survey of the small section of the rail loop which had not been previously investigated by Rich (1993) for the Bengalla Mine, and of the fine rejects emplacement area, with representatives of the Wanaruah LALC and Wonnarua Tribal Council. The survey was undertaken over 17 days between December 1996 and May 1997.

The investigation area was subdivided into three 'landform units', ridge/hill crests, hillslopes and valley bottoms/gullies (refer to Figure 17), with the 'hillslope' unit comprising the majority of the survey area. Upper reaches of minor drainage lines were classified in the 'hillslope' unit. Two major drainages, associated flats and sections of minor drainages on the flats were classified as 'valley bottoms/gullies' (ERM Mitchell McCotter 1997b).

Total survey coverage was estimated at 80% of the investigation area, with targeted sampling of exposures along with systematic transect sampling (ERM Mitchell McCotter 1997b). Overall ground surface visibility was estimated at an average of 10%, resulting in effective survey coverage of approximately 8% of the overall study area (ERM Mitchell McCotter 1997b).

A total of 90 Aboriginal sites, comprising 73 artefact scatters and 13 isolated artefacts, along with four scarred trees (one combined with an isolated artefact) were recorded in the fine rejects emplacement area, with one additional artefact scatter recorded in the section of the rail link that was surveyed bringing the total number of sites identified to 91 and total number of artefacts recorded to 3,952 (refer to Figure 18). These sites were labelled numerically from 1 to 91 (ERM Mitchell McCotter 1997b).

[16] Where located within the MPO Aboriginal Site Database Area (five sites are situated outside of the Database Area).

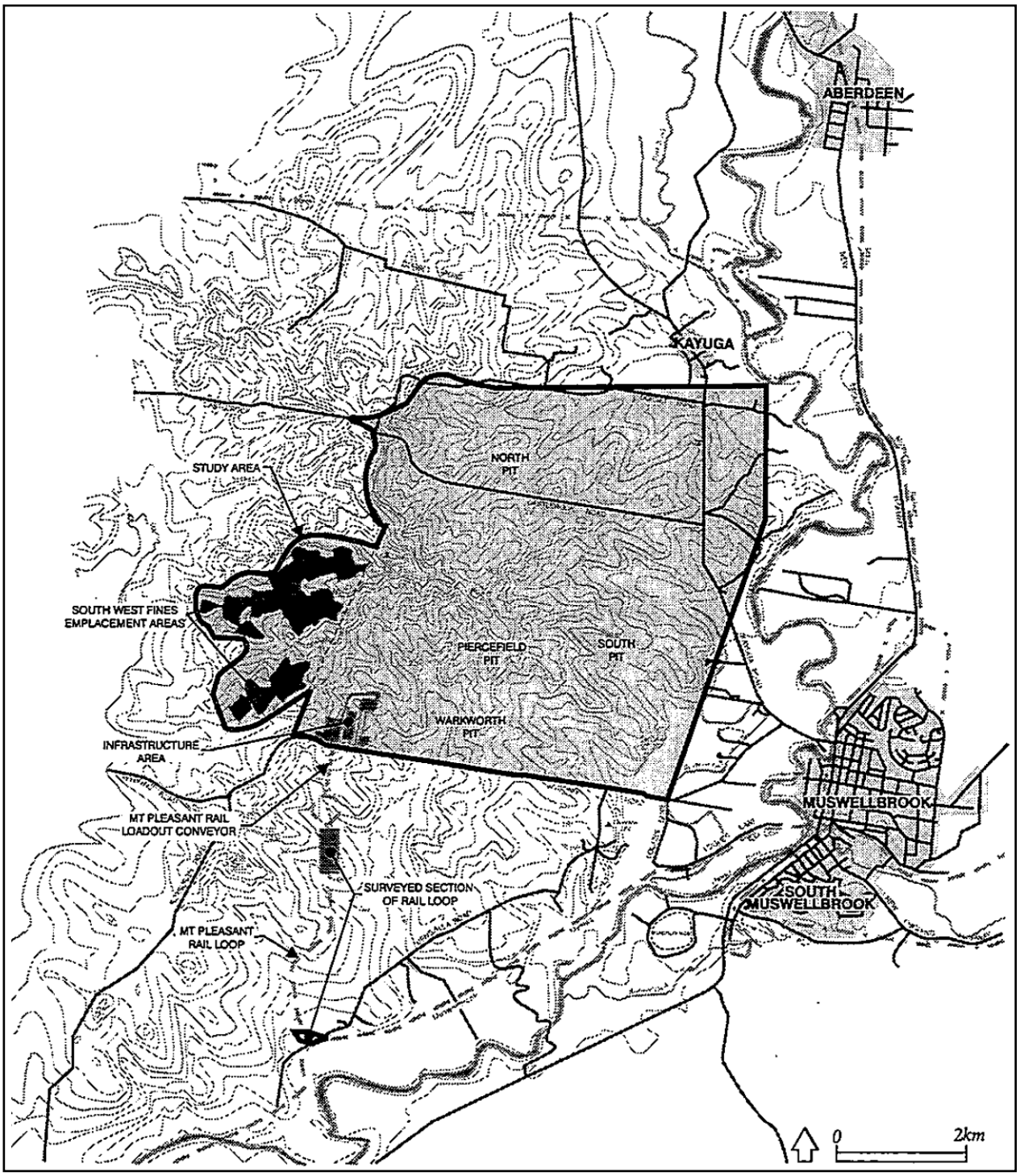


Figure 16: Location of the MPO Fine Rejects Emplacement Area of ERM Mitchell McCotter (1997b: Figure 2).

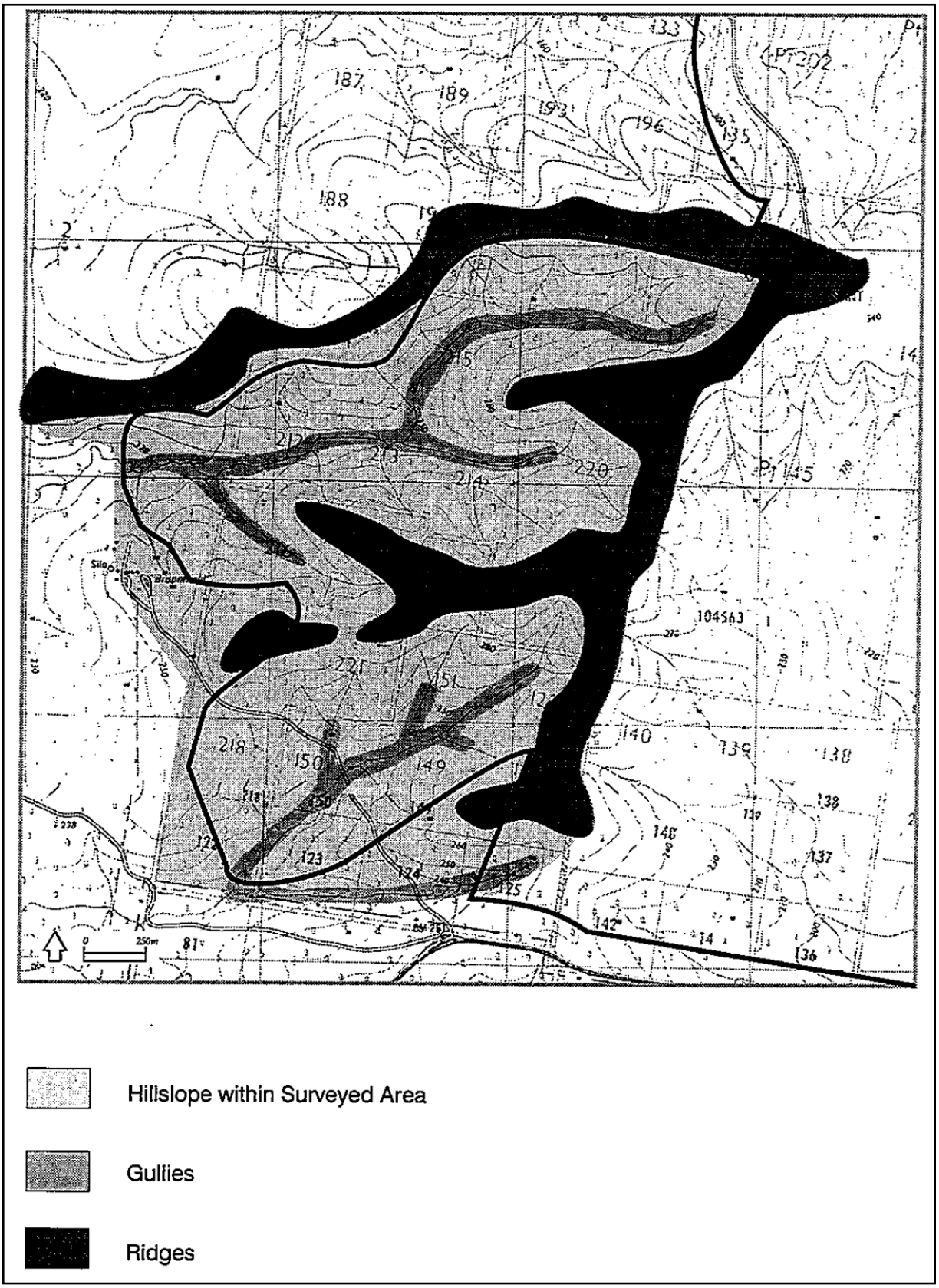


Figure 17: Location of the MPO Fine Rejects Emplacement Area of ERM Mitchell McCotter (1997b: Figure 3) showing classification into landform units.

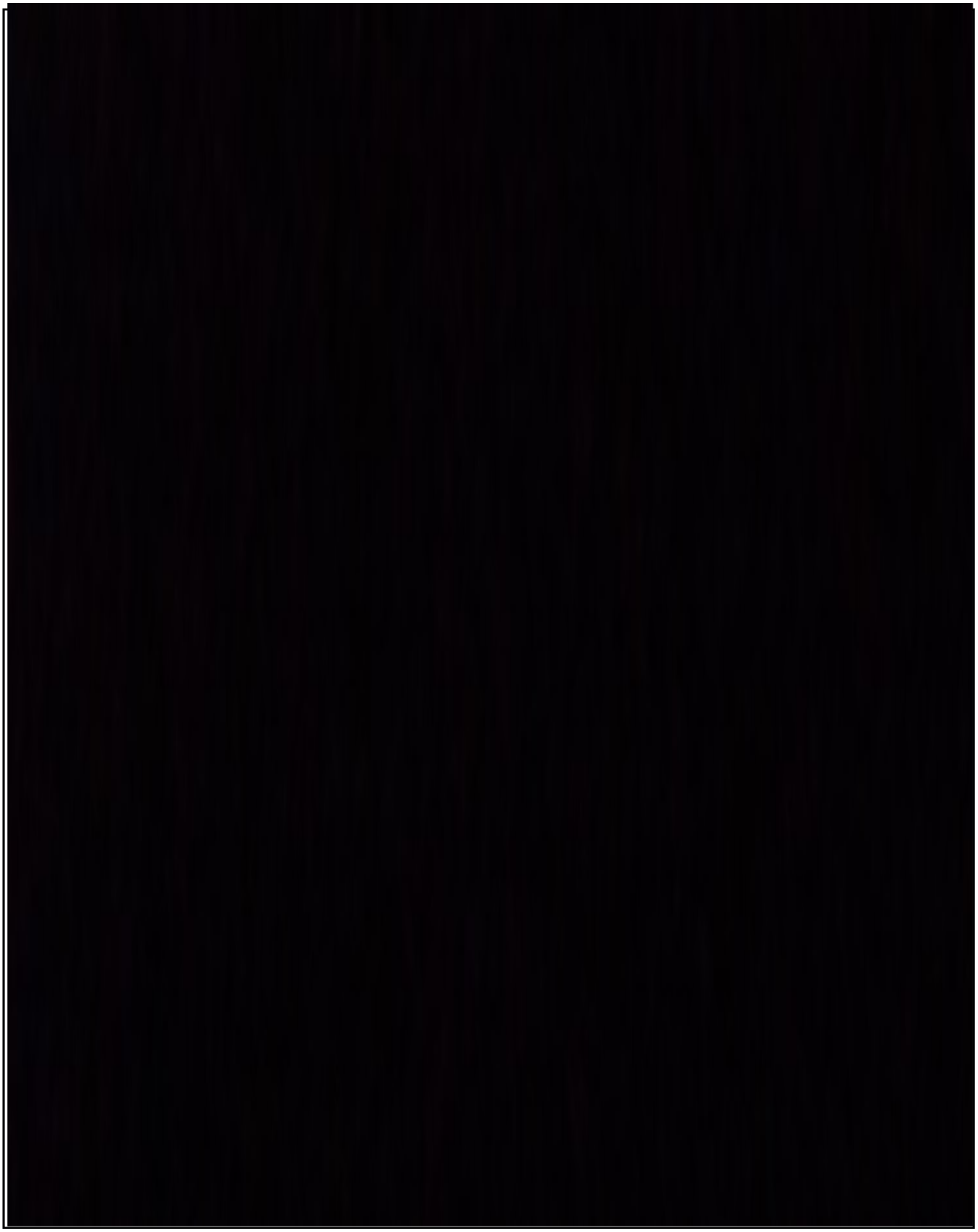


Figure 18: Location of the MPO Fine Rejects Emplacement Area of ERM Mitchell McCotter (1997b: Figure 3) showing Aboriginal sites 1-90.

A number of the open artefact sites were reported as extending over broad areas of ground, most notably Site 44 over approximately 400 x 200 metres (as inferred from Figure 18). Other open artefact sites reported by ERM Mitchell McCotter (1997b) as extending over more than a 30 metre length of area included Site 1 (40 x 30 metres), Site 5 (100 x 20 metres), Site 6 (100 x 50 metres), Site 7 (50 x 50 metres), Site 10 (50 x 50 metres), Site 11 (70 x 15 metres), Site 13 (70 x 20 metres), Site 16 (50 x 15 metres), Site 19 (60 x 10 metres), Site 28 (40 x 5 metres), Site 30 (40 x 5 metres), Site 39 (75 x 50 metres), Site 41 (50 x 40 metres), Site 42 (50 x 10 metres), Site 49 (50 x 30 metres), Site 66 (70 metres), Site 68 (50 x 50 metres), Site 72 (40 x 25 metres), Site 88 (50 x 10 metres) and Site 90 (150 x 2 metres).

Site 44 was an extensive site with 2,551 artefacts recorded on both sides of a watercourse at its confluence with a tributary north of the Broomfield homestead. Further unrecorded surface and sub-surface artefacts were anticipated by ERM Mitchell McCotter (1997b) to be present in undisturbed grassed areas adjacent to the areas of erosion and ground disturbance in which the artefacts were visible.

Of the open artefact sites, 13 contained a single artefact, 49 contained between two and ten artefacts, seven contained between 11 and 20 artefacts, and seven contained between 21 and 30 artefacts (Sites 1, 5, 49, 54, 65, 87 and 90), with higher artefact counts in Site 6 (87 artefacts), Site 7 (50 artefacts), Site 10 (106 artefacts), Site 11 (79 artefacts), Site 13 (88 artefacts), Site 14 (37 artefacts), Site 44 (2,551 artefacts), Site 55 (107 artefacts), Site 59 (33 artefacts), Site 62 (36 artefacts), Site 63 (125 artefacts) and Site 64 (150 artefacts) (ERM Mitchell McCotter 1997b).

It appears that none of these sites were registered on AHIMS or incorporated into previous RTCA maintained Aboriginal site databases for the MPO. As a component of this SSD Project, Aboriginal Site Recording Forms have been lodged with Heritage NSW to facilitate the registration of these sites on AHIMS, and these sites have been added to the Revision 4 MPO Aboriginal Site Database.

Approximately 55% of sites were located within the hillslopes unit, 37% in the gullies unit and 8% in the ridge unit. However, all open artefact sites with more than 50 artefacts were located within the gully unit and the majority of artefacts were also associated with this unit (ERM Mitchell McCotter 1997b).

ERM Mitchell McCotter (1997b) report that the combined artefact assemblage of 3,952 artefacts was dominated by silcrete (67.2%), with a lower frequency of tuff (reported as ‘mudstone’, 16.4%) and low to very low frequencies of quartz (5.7%), ‘fine-grained siliceous’ (3.9%), petrified wood (2.6%), chert (2.2%), volcanic (0.8%), quartzite (0.7%), siliceous conglomerate (0.4%) and porcellanite (0.1%).

ERM Mitchell McCotter (1997b) report that the combined artefact assemblage was dominated by flakes (23.5%) and flaked pieces (potentially also including flake portions, 71.3%), with cores (3.3%), ‘fractured pebbles’ (1%), backed blades (0.5%), blades (0.1%) and pebble tools (0.1%) also recorded. The artefacts were typically small in size, with 70% less than 30 millimetres in maximum dimension and 25.5% between 30 and 50 millimetres.

While similarities in terms of site types and assemblage contents were noted by ERM Mitchell McCotter (1997b) with the results of Rich (1995), the high numbers of artefacts, particularly in Site 44, was highlighted as a key difference. Another key difference was in the interpretation of the pattern of Aboriginal occupation, with ERM Mitchell McCotter (1997b) noting that their results were not consistent with Rich’s (1995) interpretations, with Site 44 appearing to be “potentially intensively and/or repeatedly occupied, to a much greater degree than over the remainder of the study area and Authorisation”.

ERM Mitchell McCotter (1997b) made the very salient observations that the results demonstrate that the "whole of the study area was utilised to some degree by Aboriginal people in the past" and that "the study area should be viewed as one large 'site' of occupation, with artefacts only being observed where exposure and visibility allowed'.

ERM Mitchell McCotter (1997b) assessed the significance of the heritage sites using categories ranging from 1 to 5, with 5 indicating the sites of highest relative significance. ERM Mitchell McCotter (1997b) assessed most of the open artefact sites as being of low archaeological significance, however several larger, dense sites were assessed as having higher research potential and significance. Site 44, with over 2,550 artefacts, was assessed as being of high significance, with the site appearing to be "unique in a local and regional context" (regional rarity and moderate representativeness values) and having high research potential and high artefact density and size. Sites assessed as being of 'moderate' significance (level 3) included Sites 6, 13, 55 and 63. Sites assessed as being of 'moderate to high' significance (level 4) included Sites 10, 17, 36, 37, 50 and 64, with Site 64 noted as having a high potential for sub-surface deposits.

ERM Mitchell McCotter (1997b) assessed the potential impacts of the modification and presented a series of recommendations, including:

- Avoidance of impacts to Aboriginal sites where feasible;
- Section 90 Consent to Destroy (AHIP) for sites that will be impacted where they had (a) a significance rating of '3' or lower, or (b) a significance rating of '4' but low research potential;
- For Site 44, preparation of a management plan in consultation with the local Aboriginal community to ensure mitigation against further impact prior to construction of the dam;
- Protection of sites adjacent to impact areas from inadvertent impacts;
- Preservation of Site 64 and adjacent land to the south towards Site 65 (being a large, dense site with moderate research potential), with management measures potentially incorporated into the Management Plan for Site 44; and
- Continued consultation with the local Aboriginal community through the Wanaruah LALC and Wonnarua Tribal Council, particularly in relation to the management of Sites 44 and 64.

The ERM Mitchell McCotter (1997b) recommendations for each site were summarised (refer to Table 5).

Table 5: ERM Mitchell McCotter's (1997b: Table 6.2) recommendations for specific Aboriginal sites.

Avoid (No Impact)	Consent to Destroy Recommended	Management Measures
sites 1 - 4	sites 5 - 9	site 10 - collection prior to destruction as moderately representative sample of artefacts but no research potential
sites 16 - 19	sites 11 - 15	site 37 - consider refining emplacement pond to avoid scarred tree
sites 23 - 24	sites 20 - 22	site 44 - management plan in consultation with local Aboriginal community
site 26	site 25	site 64 - will be avoided, but should be incorporated into management plan in consultation with local Aboriginal community
site 36	sites 27 - 35	
site 39	site 38	
site 45	sites 40 - 43	
sites 47 - 58	sites 59 - 61	
site 62	site 63 - as low research potential and not representative	
sites 64 - 65	site 66	
site 67	sites 68 - 73	
sites 75 - 83	site 46 (if required)	
sites 85 - 90	site 74 (if required)	
	site 84 (if required)	

Mount Pleasant Stage 1 Survey (HLA-Envirosciences 2007)

HLA-Envirosciences (2007) reports on the Stage 1 survey of the MPO, the first of the more detailed surveys to be undertaken across the MPO after its approval, in two locations north of Wybong Road. One location encompassed much of the approved infrastructure area, and the other location comprised a larger area immediately to the east in which initial works were proposed, for a total area of approximately 800 hectares (refer to Figure 4).

The survey was conducted over ten days in October 2006 with representatives of the Aboriginal stakeholders for the MPO. A series of transects of 100 metres width were inspected over a total combined length of 83 kilometres to systematically survey the study area.

HLA-Envirosciences (2007) reported the identification of 73 Aboriginal sites within the Stage 1 area, comprising 66 'isolated finds' and seven 'potential scarred trees'. These recordings were attributed the MTP numbers MTP-66 to MTP-138 (refer to Figure 19). However, HLA-Envirosciences (2007) adopted an unusual definition of an artefact scatter as "typically having a maximum density of over four artefacts per square metre". The problems with such a definition are discussed in sections below, but relate to the failure to take into consideration variations in surface visibility, broadly accepted concepts of the widespread distribution of artefact evidence across the landscape within both surface and sub-surface contexts, the relatedness or otherwise of artefacts at a location, and the lack of explicit definition of terms and inconsistency. Applying a standard definition, HLA-Envirosciences (2007) identified 27 artefact scatter sites and 39 isolated artefacts.



Figure 19: Location of the MPO Stage 1 Aboriginal site locations of HLA-Envirosciences (2007: Figure 2).

The scars on six of the seven 'potential scarred trees' (MTP-75, 77, 81, 99, 111 and 124) reported by HLA-Envirosciences (2007) were subsequently reassessed by Kuskie (2017a, 2017b and 2019) and Burns (2017a, 2017b and Global Soil Systems 2019) as having arisen from non-Aboriginal causes. The other 'potential scarred tree', MTP-128, had already been reassessed by HLA-Envirosciences (2007) and/or RTCA as being of non-Aboriginal origin and was not listed on AHIMS or the MPO Aboriginal Site Database.

HLA-Envirosciences (2007) report that sites were predominantly found adjacent to first order drainages and erosion channels, and there appears to be a high correlation between their results and erosion scours. Most sites contained less than ten artefacts, with the highest reported number being approximately 30 at MTP-117 (HLA-Envirosciences 2007). Many artefacts were observed but not recorded. Of the 133 that were recorded by HLA-Envirosciences (2007), 47% were reported as silcrete and 44% as chert (although this is more likely to be indurated rhyolitic tuff). The artefacts typically comprised flakes, flake portions, flaked pieces and cores. HLA-Envirosciences (2007) concluded that in the absence of higher order water sources, occupation of the Stage 1 area was of a low intensity and related to transitory movement.

HLA-Envirosciences (2007) assessed six of the identified sites as being of moderate to high significance (all scarred trees subsequently determined not to be of Aboriginal origin), one site of moderate significance (MTP-117), and the remaining sites of low significance. Recommendations were present by HLA-Envirosciences (2007) for a Section 90 AHIP for the sites to be impacted, with surface collection for sites where impacts were proposed.

Mount Pleasant Stage 2 Survey (McCardle 2007)

McCardle (2007) reports on the Stage 2 survey of the MPO, in a single location north of Wybong Road of approximately 634 hectares in area (refer to Figures 4 and 20).

The survey was conducted over eight days in February and March 2007 with representatives of the Aboriginal stakeholders for the MPO. A series of transects were inspected to systematically survey the study area, with personnel spaced at intervals of approximately 15 metres (refer to Figure 20).

McCardle (2007) reported the identification of 219 Aboriginal sites within the Stage 2 area, comprising 92 artefact scatters, 117 isolated artefacts, eight scarred trees and two hearths. These sites were attributed the MTP numbers MTP-139 to MTP-355 (refer to Figure 21). The total includes re-recording of a number of previously reported sites.

The scars on all eight trees (MTP-146, 153, 161, 162, 213, 259, 263 and 340) reported by McCardle (2007) were subsequently reassessed by Kuskie (2017b and 2019) and Burns (2017b and Global Soil Systems 2019) as having arisen from non-Aboriginal causes. Another two items (MTP-173 and MTP-183) had previously been assessed by RTCA as non-sites, as they did not represent hearths and no stone artefacts were present.

The artefact scatter sites ranged in size up to 72 artefacts, although most sites contained fewer than ten artefacts. McCardle (2007) reports that most sites (164) were located on slopes, with 25 on creeks, 23 on flats and seven on crests. McCardle (2007) reports that 109 sites were situated within 50 metres of water, 16 sites 51-100 metres from water, and 93 sites further than 100 metres from water. In relation to Kuskie and Kamminga's (2000) occupation modelling for the Hunter Valley, McCardle (2007) concluded that the evidence represents transitory movement and/or hunting/gathering with or without camping.



Figure 20: Location of the MPO Stage 2 survey investigation area of McCardle (2007: Figure 2.1) showing heritage survey transects (note: also includes Stage 1 and Stage 3 transects).



Figure 21: Location of the MPO Stage 2 survey investigation area of McCardle (2007: Figure 2.5) showing Aboriginal site locations.

McCardle (2007) reported on eight PADs identified along drainages:

- PAD 1 – associated with site MTP-159;
- PAD 2 – associated with site MTP-160, 161 and 162;
- PAD 3 – associated with site MTP-212;
- PAD 4 – associated with site MTP-206, 207, 208, 209, 210 and 211;
- PAD 5 – associated with site MTP-294;
- PAD 6 – associated with site MTP-132;
- PAD 7 – associated with site MTP-334; and
- PAD 8 – associated with site MTP-336.

McCardle (2007) assessed all of the open artefact sites as being of low significance and surface collection was recommended for all sites where impacts were proposed. Test excavations was recommended for 12 open artefact sites, associated with the potential deposits listed above (MTP-159, 160, 206-211, 212, 294, 334 and 336).

Mount Pleasant Stage 3 Survey (Roberts 2007)

Roberts (2007) reports on the Stage 3 survey of the MPO, four spatially separate areas totalling approximately 876 hectares (refer to Figures 4 and 22). Approximately 74 hectares of Roberts (2007) Stage 3 study area south of Wybong Road is located in the Bengalla Mine and is not included within the existing approved MPO area or the SSD Area. Similarly, 31 hectares north of Rosebrook Lane immediately west of Kayuga Road is also located outside of the approved MPO and the SSD Area.

The survey was conducted over ten days in March 2007 with representatives of the Aboriginal stakeholders for the MPO. A series of transects 200 metres apart were inspected to systematically survey the study area, with personnel spaced at intervals of 10-15 metres (refer to Figure 22).

Roberts (2007) reported the identification of approximately 346 Aboriginal sites and cultural values within the Stage 3 area, almost all open artefact sites. These sites were attributed the MTP numbers MTP-356 to MTP-701.

However, it is noted that Roberts (2007) concluded that a number of the scarred trees attributed MTP numbers were not of Aboriginal origin and therefore these items, such as MTP-363 and MTP-367, were not included in the MPO Aboriginal Site Database or registered with AHIMS.

Other features that did not comprise Aboriginal objects were not registered with AHIMS or included in the Site Database, such as MTP-359, described as a 'spiritual place – possible ceremonial/signalling area', and MTP-373 a 'spiritual place – hilltop rock outcrop linked by ridge to other ceremonial area clumps of black ochre'.

A number of sites recorded by Roberts (2007) in the Stage 3 area are located in land that does not comprise part of either the approved MPO, SSD Area or Heritage Conservation Areas, and therefore are not included within the MPO Aboriginal Site Database Area.

Hence, in total about 59 items or values attributed an MTP number by Roberts (2007) are not listed within the present MPO Aboriginal Site Database, while approximately 287 sites recorded by Roberts (2007), comprising 148 artefact scatters, 132 isolated artefacts, one open artefact site and six scarred trees, are located within the MPO Aboriginal Site Database Area.

The scars on the six trees (MTP-365, 370, 484, 515, 528 and 577) reported by Roberts (2007) were subsequently reassessed by Kuskie (2017b, 2017c and 2019) and Burns (2017b, 2017c and Global Soil Systems 2019) as having arisen from non-Aboriginal causes.

Roberts (2007) reported a total of approximately 1,802 artefacts, during the Stage 3 survey. Silcrete comprised the majority of the combined assemblage (67%), while tuff (27%) and lower frequencies of other materials such as chert, quartz, petrified wood, porcellanite and basalt were also reported. The assemblage was largely comprised of flakes and cores.

Roberts (2007) presented some highly speculative cultural landscape modelling, in which various 'song trails', 'ceremonial sites' and 'occupation areas' were hypothesized across the locality.



Figure 22: Location of the MPO Stage 3 survey investigation area of Roberts (2007) showing heritage survey transects and Aboriginal sites located.

Mount Pleasant Stage 4 Survey (Anderson 2007)

Anderson (2007) reports on the Stage 4 survey of the MPO, five spatially separate areas totalling approximately 738 hectares (refer to Figures 4 and 23-25).



Figure 23: Location of the MPO Stage 4 survey investigation area of Anderson (2007: Map 1) showing heritage survey transects and Aboriginal sites located.



Figure 24: Location of the MPO Stage 4 survey investigation area of Anderson (2007: Map 2) showing heritage survey transects and Aboriginal sites located.



Figure 25: Location of the MPO Stage 4 survey investigation area of Anderson (2007: Map 3) showing heritage survey transects and Aboriginal sites located.

The survey was conducted over ten days in May and June 2007 with representatives of the Aboriginal stakeholders for the MPO. A series of transects were inspected to systematically survey the study area, with personnel spaced at intervals of ten metres (refer to Figures 23-25).

Anderson (2007) reports the identification of approximately 384 Aboriginal sites within the Stage 4 area, including 216 artefact scatters, 164 isolated artefacts, one open artefact site and three scarred trees, but minimal details are presented. These sites were attributed the MTP numbers MTP-702 to MTP-1087.

The scars on the three trees (MTP-781, 825 and 901) were subsequently reassessed by Kuskie (2017b) and Burns (2017b) as having arisen from non-Aboriginal causes.

Anderson (2007) reported observations of potentially useful plant species within the investigation area and fauna observed during the survey.

Mount Pleasant Stage 5 Survey (Scarp Archaeology 2009)

Scarp (2009) report on the Stage 5 survey of the MPO, an area of 836 hectares in the central-west and northern portions of the MPO (refer to Figures 4 and 26).

The survey was conducted over ten days in August 2009 with representatives of the Aboriginal stakeholders for the MPO. A series of 100 metre wide transects were inspected to systematically survey the study area (refer to Figure 26).

Scarp (2009) report the identification of 136 Aboriginal sites within the Stage 5 area, including 20 artefact scatters, 113 'isolated artefact sites' and three 'possible Aboriginal scarred trees'.

The scars on the three trees (MTP-1094, 1269 and 1274) were subsequently reassessed by Kuskie (2017b, 2019) and Burns (2017b, Global Soil Systems 2019) as having arisen from non-Aboriginal causes.

An unusual arbitrary definition of an 'artefact scatter' was applied by Scarp (2009), whereby 'artefact scatter sites' had to cover an area larger than 5 x 5 metres, must have an average frequency of at least double the surrounding background frequency for 100 metres, and the average density must be greater than 0.3 artefacts/m^2. Conversely, 'isolated artefacts' were less than this and could therefore actually contain multiple artefacts. The problems with such a definition are that:

- Archaeological visibility and effective survey coverage are not taken into consideration (with visibility being one of the primary factors in whether an artefact can be detected at a specific time in a specific location);
- Broadly accepted concepts of the widespread distribution of artefact evidence across the landscape within both surface and sub-surface contexts (eg. Dunnell and Dancey 1983, Foley 1981, Kuskie 2000) are not considered;
- The relatedness or otherwise of artefacts at a location is not considered (adjacent artefacts could arise from the same activity event at one specific time, or could be the result of superimpositioning from totally unrelated events at vastly different times); and
- The lack of explicit definition of terms and inconsistency with the definition applied by Scarp (2009, 2010a, 2010b, 2012) at MPO (refer to subsequent sections).



Figure 26: Location of the MPO Stage 5 survey investigation area of Scarp (2009: Figure 4) showing heritage survey transects and Aboriginal sites located.

Another consequence is that isolated artefacts, in the standard definition applied by other researchers as a *single* artefact further than an arbitrary distance (typically either 50 or 100 metres) from other visible artefacts, under the Scarp (2009) definition could in fact comprise multiple artefacts (as was the case for numerous locations). All of these locations would be identified as 'artefact scatters' under the more widely accepted definitions.

Aboriginal Site Recording Forms and the consequent AHIMS listings and MPO Aboriginal Site Database entries were made for individual 'MTP' numbered sites, which were more consistent with normal standards and the RTCA definition for site recording at the MPO. For example, although sites MTP-1163 and MTP-1164 were considered together by Scarp (2009), they have been attributed separate AHIMS numbers (#37-2-3741 and #37-2-3742 respectively) and separate listings in the MPO Aboriginal Site Database. It is noted that this approach contrasts totally with the Broomfield Conservation Area survey, where the opposite occurred (refer to section below).

In effect therefore, there were approximately 216 Aboriginal sites recorded by Scarp (2009) within Stage 5, following conventional definitions, and for which Site Records were lodged with the fomer OEH (now Heritage NSW) and AHIMS numbers attributed, and MPO Aboriginal Site Database entries listed. These recordings were attributed the MTP numbers MTP-1088 to MTP-1303.

Scarp (2009) recorded a total of 256 artefacts during the Stage 5 survey. Silcrete comprised over 50% of the combined assemblage, tuff 20% and lower frequencies of other materials such as basalt, volcanics, quartz, quartzite, chalcedony, petrified wood and sandstone. The assemblage was largely comprised of flakes (60%), retouched flakes (20%) and cores (18%) (Scarp 2009), although presumably the 'flake' total also includes flake portions.

Scarp (2009) report that the entire Stage 5 area is located within hilly terrain over one kilometre from the Hunter River or any permanent water sources, hence the low frequency of artefacts reflecting low intensity usage. The MTP-1213 to 1224 site complex, situated on a ridge crest with extensive views (present day, without forest vegetation) to the northern escarpment and Hunter River, was noted as containing a greater variety of evidence (Scarp 2009).

Scarp (2009) assessed most of the sites as being of low significance and further heritage management (such as salvage) was generally not recommended, apart from test excavations for the MTP-1213 to 1224 site complex. Aboriginal representatives also recommend that the sites undergo a cultural salvage, involving as a minimum surface collections.

Mount Pleasant Stage 6 Survey (Scarp Archaeology 2012)

Scarp (2012) report on the Stage 6 survey of the MPO, an area of 176 hectares in Mining Lease 1645, bordered by Wybong Road to the south, Rosebrook Lane to the north and Kayuga Road to the east (refer to Figures 4 and 27).

The survey was conducted over four days in March 2011 with representatives of the Aboriginal stakeholders for the MPO. A series of 100 metre wide transects (with personnel spaced at approximately 15 metre intervals) were inspected to systematically survey the study area (refer to Figure 27). Effective survey coverage of 289,590 m^2 was calculated by Scarp (2012), approximately 16% of the investigation area.

Scarp (2012) located 36 Aboriginal sites (MTP-1693 to MTP-1702 and MTP-1715 to MTP-1740), all isolated artefacts apart from one possible scarred tree (MTP-1732). The scar on the tree (MTP-1732) was subsequently reassessed by Kuskie (2017b) and Burns (2017b) as having arisen from non-Aboriginal causes.



Figure 27: Location of the MPO Stage 6 survey investigation area of Scarp (2012: Figures 7 and 8) showing heritage survey transects and Aboriginal sites located.

The presence of six sites previously recorded during an exploration drilling survey in 2006 was noted. The 2006 survey had focused on potential drilling access tracks and 43 drill pad locations of varying size (40 x 40 metres, up to 250 x 30 metres). Scarp (2012) report that in the 2006 inspection, 16 hectares of drill pad locations and a 15 kilometre total length of access tracks had been inspected. Scarp (2012) note that no heritage report was prepared for the 2006 inspection.

Scarp (2012) recorded 43 artefacts, almost all flakes and flake portions. Most artefacts were of silcrete (47%) and tuff (42%). As discussed in sections below, Scarp (2012) applied an unusual arbitrary definition of an "artefact scatter' whereby 'artefact scatter sites' had to have a miminum number of five or more artefacts within a 5 x 5 metre area, and the "outer limits of sites are formed by a drop in artefact frequency to that of the surrounding environment or where natural boundaries occur". Conversely, 'isolated artefacts' were less than this. The significant problems with such a definition are discussed in the preceding section, but the consequence is that numerous 'isolated artefacts', in the standard definition applied by other researchers as a *single* artefact further than an arbitrary distance (typically either 50 or 100 metres) from other visible artefacts, under the Scarp (2010a) definition could in fact comprise multiple artefacts (as was the case for MTP-1715, 1719, 1729, 1738 and 1739).

Rosebrook Creek drains through the Stage 6 investigation area and enters the Hunter River floodplain on the eastern margin. Most artefacts were identified within 200 metres of Rosebrook Creek and its lower order tributaries. Few artefacts were found on elevated crests bordering the Hunter River floodplain. Scarp (2012) assessed the sites as being of low significance and further heritage management (such as salvage) was not recommended.

Mount Pleasant Broomfield Aboriginal Cultural Heritage Conservation Area (Scarp Archaeology 2010a)

Scarp (2010a) investigated the proposed Broomfield Aboriginal Cultural Heritage Conservation Area, which at that time comprised an area of 260 hectares referred to as 'MTP ACHCA Area North' and an area of 246 hectares referred to as 'MTP ACHCA Area West' (refer to Figures 4 and 28).

The presently approved and provisional Aboriginal Heritage Conservation Areas extend over an area of approximately 714 hectares (including a portion of the Broomfield property) and are located to the west of the MPO (refer to Figure 52). The Aboriginal Heritage Conservation Areas are now separated into three distinct portions (the approved Area A and the provisional Areas B and C; refer to Figure 52) on the basis that MACH will secure the areas in a staged manner. The staged implementation of the Aboriginal Heritage Conservation Strategy provides MACH with the ability to resolve long-term management issues associated with overlapping/neighbouring projects. On 14 July 2016 the DP&E approved the staged implementation of the Aboriginal Heritage Conservation Areas for the MPO as follows:

1. Stage 1 approved Aboriginal Heritage Conservation Area A – approximately 329 hectares as a guaranteed conservation area for the 2016-2020 development at the MPO.
2. Stage 2 provisional Aboriginal Heritage Conservation Area C – approximately 235 hectares to be considered as a conservation area for the post-2020 development at the MPO[17].
3. Stage 3 provisional Aboriginal Heritage Conservation Area B – approximately 150 hectares as a potential future conservation area subject to further consideration.

[17] Subject to the outcome of consideration of alternative conservation areas, MACH will seek to secure Area C within 12 months of the commencement of disturbance activities associated with the post-2020 development.

Scarp (2010a) undertook heritage surveys systematically sampling the extent of the 506 hectare 'Broomfield Conservation Area', which corresponds to all of the currently approved Conservation Area A and provisional Conservation Area B, and a portion of the provisional Conservation Area C.

The surveys were undertaken with representatives of the MPO Aboriginal stakeholders over 12 days between March and May 2010. In total, a 55 kilometre length of survey transects, each approximately 100 metres wide, was inspected (refer to Figure 28).

An unusual arbitrary definition of an "artefact scatter' was applied by Scarp (2010a), whereby 'artefact scatter sites' had to have a miminum number of five or more artefacts within a 5 x 5 metre area (ie. an average density equal to or greater than 0.2 artefacts/m^2) "where surrounding artefact frequency is low or negligible", where "surrounding frequency is higher" a minimum number of artefacts at least "four times greater than the average artefact density of isolated artefacts" and with "background artefact frequency recorded for ten times the dimensions of the site" with the "outer limits of sites formed by a drop in artefact frequency to that of the surrounding environment or where natural boundaries occur". Conversely, 'isolated artefacts' were less than this.

The significant problems with such a definition have been discussed above, but the consequence is that numerous 'isolated artefacts', in the standard definition applied by other researchers as a *single* artefact further than an arbitrary distance (typically either 50 or 100 metres) from other visible artefacts, under the Scarp (2010a) definition could in fact comprise multiple artefacts (as was the case for numerous locations within the Broomfield study area).

Scarp (2010a) also note that their definition was inconsistent with the RTCA definition for site recording at the MPO, and to complicate matters further, sites were assigned numbering after the MTP (Mount Pleasant) system (MTP-1304 to MTP-1399 and MTP-1464 to MTP-1692) but were reported by Scarp (2010a) in terms of the BCA (Broomfield Conservation Area) sequential numbering (BCA-001 to BCA-104), in which sites with a BCA number often comprised multiple MTP numbers (refer to Table 2 of Scarp 2010a).

It is noted that Aboriginal Site Recording Forms lodged by Scarp with the former OEH (now Heritage NSW) AHIMS were for the BCA sites, not the MTP sites. Correspondingly, the AHIMS database and MPO Aboriginal Site Database represent the BCA site listings, which often represent multiple spatially separate individual locations of evidence. This has been noted where relevant for each listing on the MPO Aboriginal Site Database (refer to Appendix 7) and where possible the spatially separate locations have been included within the Open Site Shape Layer created during this SSD assessment (refer to Appendix 4).

Scarp (2010a) report that their Broomfield survey resulted in the recording of "eight verified Aboriginal scarred trees" and 2,370 stone artefacts, based upon 327 locations recorded during the survey (essentially each of these locations has been attributed an 'MTP' number). Scarp (2010a) amalgamated these recordings into 104 site types (the 'BCA' numbers) including:

- 11 artefact scatters;
- 21 artefact scatters with PADs;
- 49 'isolated finds';
- 15 'isolated finds' with PADs; and
- 8 'verified' Aboriginal scarred trees.

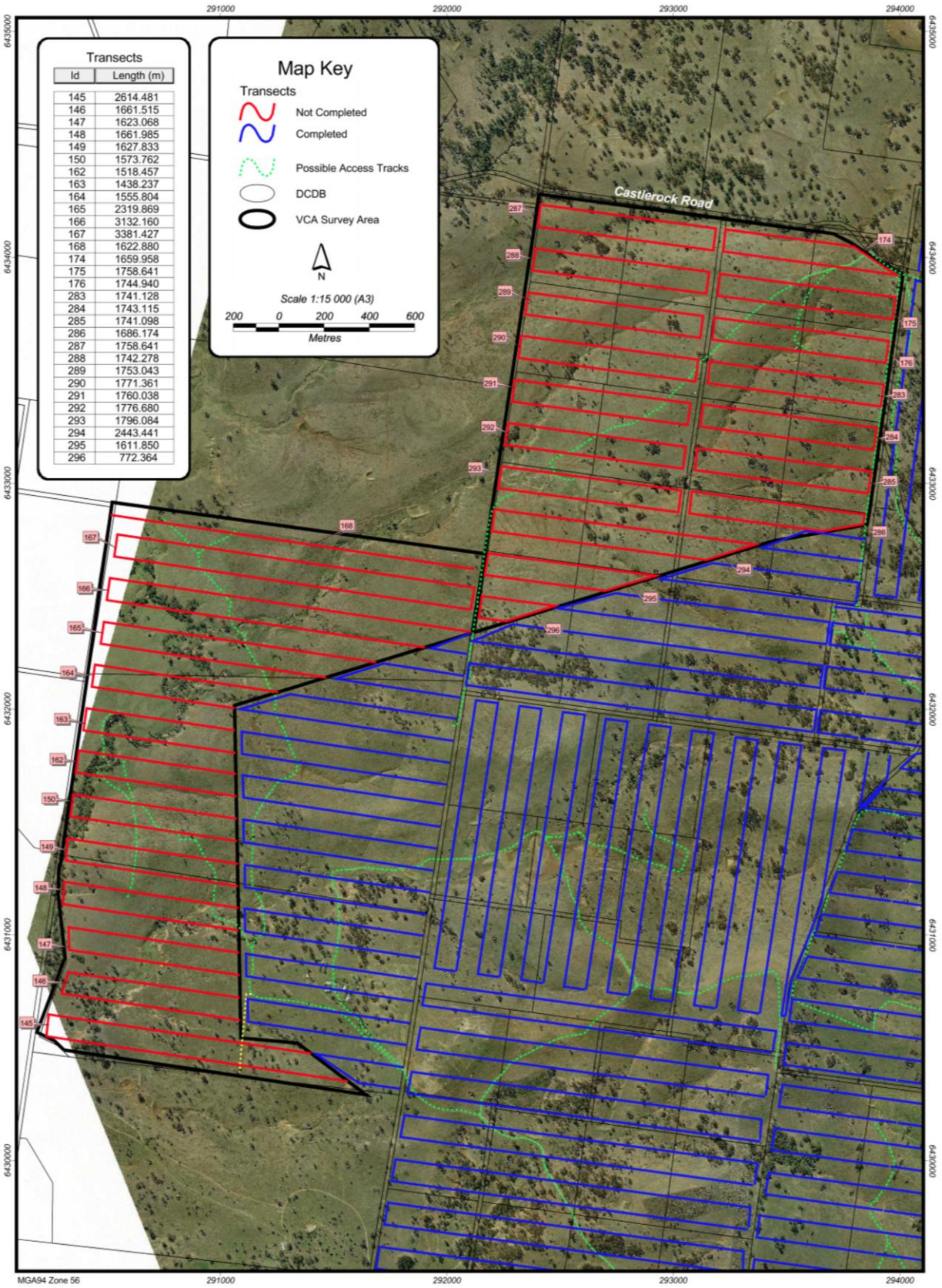


Figure 28: Location of the Broomfield Conservation Area investigation area of Scarp (2010a: Figure 5) showing heritage survey coverage (red lines) (blue lines represent previous investigation survey transects).

Scarp (2010a) report that another five potential scarred trees were identified during the survey but were subsequently determined not to be of Aboriginal cultural origin following further inspections conducted under the RTCA 'Aboriginal scarred tree verification process'.

South East Archaeology (Kuskie 2019) and Dr Mark Burns of Global Soil Systems (2019) subsequently reassessed all of the 'verified' scarred trees and potential scarred trees of Scarp (2010a) (BCA-008, BCA-050, BCA-071, BCA-072, BCA-077, BCA-078, BCA-080 and BCA-084) and determined that all scars had originated from non-Aboriginal causes.

A total of 2,370 stone artefacts were reported by Scarp (2010a), however only 513 were recorded in detail and documented in the report. Of the combined assemblage of 513 artefacts, silcrete was the predominant stone material (67%), with a lower frequency of tuff (18%) and low to very low frequencies of chert, basalt, quartzite, quartz, porcellanite, chalcedony, petrified wood, metamorphosed shale and other volcanics. Silcrete sources were identified at a number of sites, in the form of large cobbles. The recorded assemblage was dominated by unmodified flakes (76%) and retouched artefacts (14%) and cores (10%).

Scarp (2010a) report that 54 sites were located in drainages and 50 sites on ridges and hills, and argue that occupation was focused on the drainages (with higher artefact numbers). Scarp (2010a) also sought to compare the results with the Stage 1-5 and Rich (1995) study areas, in terms of basic artefact numbers and site numbers, arguing that the Broomfield area had a higher frequency of artefacts and sites than the other MPO areas. However, without complete recording of each assemblage, consideration of surface visibility conditions, and use of the individual artefact as the basic unit of analysis with respect to effective survey coverage, such analysis is problematic. Further conclusions of Scarp (2010a) regarding the relative numbers of PADs or heritage significance of sites between the various areas are also problematic, given the basis of defining and assessing these issues and the variability between the numerous assessments at the MPO.

Scarp (2010a) assessed the significance of 58 of the BCA sites as low, 43 as medium and three as high, however the criteria or justification for individual assessments was not presented.

Scarp (2010a) presented recommendations for detailed recording of many of the sites, geomorphological assessment of the area, removal of cattle to limit disturbance and erosion, and consideration of further investigation of several PADs (BCA 3, 25, 42, 44 and 47).

Mount Pleasant Modification 1 (CQCHM 2010, Scarp Archaeology 2010b)

Central Queensland Cultural Heritage Management (CQCHM 2010) and Scarp (2010b) conducted an Aboriginal cultural heritage assessment of Modification 1 to the MPO approval, involving changes to the infrastructure area north of Wybong Road, and a conveyor/service corridor area south of Wybong Road adjacent to Bengalla Mine (refer to Figures 4, 29 and 30).

The infrastructure area and portions of the broad conveyor/service corridor area had been subject to previous heritage surveys and were subject to review by CQCHM (2010). A zone of approximately 310 hectares within the broad conveyor/service corridor area that had not previously been surveyed was subject to an assessment and survey by Scarp (2010b) as outlined below. The ultimate impact area of the conveyor/service infrastructure was estimated to be approximately 20 hectares and in September 2010 was revised to a location marginally adjacent to the areas previously assessed (subsequently subject to survey by Scarp 2015 as documented in the section below).

Scarp (2010b) conducted an Aboriginal cultural heritage assessment for the proposed coal conveyor route. The route was located west of the Bengalla Mine and aligned generally north (from Wybong Road) to south between the MPO and a proposed rail load out point near the Bengalla rail loop (refer to Figures 4, 29 and 30).

A survey was undertaken by Scarp (2010b) over four days in March 2010 with representatives of the Aboriginal stakeholders for the MPO. A series of transects were inspected to comprehensively and systematically survey the study area (refer to Figure 29).

A total of 64 Aboriginal sites (MTP-1400 to MTP-1463) were recorded, including six artefact scatters (three with less than ten artefacts each, and three with 20-30 artefacts), three possible Aboriginal scarred trees and up to 55 'isolated artefacts' (refer to Figure 30).

An unusual arbitrary definition of an "artefact scatter' was applied by Scarp (2010b), whereby 'artefact scatter sites' had an average artefact density of at least double the surrounding area (for 100 metres) and the average density was equal to or greater than 0.3 artefacts/m^2. Conversely, 'isolated artefacts' were less than this and could therefore actually contain multiple artefacts. The problems with such a definition have been discussed above, but the consequence is that numerous 'isolated artefacts', in the standard definition applied by other researchers as a *single* artefact further than an arbitrary distance (typically either 50 or 100 metres) from other visible artefacts, under the Scarp (2010b) definition could in fact comprise multiple artefacts (as was the case for numerous locations including MTP-1403, 1404, 1411, 1413, 1417, 1418, 1420, 1423, 1425, 1427, 1430, 1433, 1444, 1445, 1451, 1455, 1459, 1460 and 1462). All of these locations would be identified as 'artefact scatters' under the more widely accepted definitions.

A total of 186 stone artefacts were observed, with 108 recorded in detail. Silcrete (66%) dominated the combined assemblage, with a lower frequency of tuff (24%). Scarp (2010b) noted the occurrence of silcrete nodules 2.5 kilometres to the north-west near Sandy Creek. Flakes were the predominant type (76%), with a lower frequency of retouched flakes (15%) and cores (9%).

Scarp (2010b) concluded that the low incidence of artefacts reflected a frequent but transient use of the study area by Aboriginal people. The occurrence of a backed blade/point and a geometric microlith were assumed to be indicative of evidence of Aboriginal hunting practices in the southern portion of the study area.

Almost all of the sites were assessed by Scarp (2010b) as being of low archaeological significance. Surface collection under an appropriate AHIP was recommended for sites where requested by the Aboriginal stakeholders, where impacts were proposed.

Mount Pleasant Overland Conveyor (Scarp Archaeology 2015)

As noted above, the overland conveyor/service corridor area investigated by Scarp (2010b) was subsequently revised to include a location marginally adjacent to the areas previously assessed. Scarp (2015) investigated this additional area of approximately 45 hectares with a survey undertaken on 9 March 2011 (refer to Figures 4 and 31). Seven scarred trees (MTP-1703, 1704, 1708 and 1710-1713) and five 'isolated artefact' sites (MTP-1705, 1706, 1707, 1709 and 1714) were reported by Scarp (2015). One of these 'isolated artefact' sites is in fact an artefact scatter, following conventional definitions (MTP-1706 with eight artefacts).



Figure 29: Location of the Modification 1 overland conveyor investigation area of Scarp (2010b: Figure 1) and heritage survey coverage.



Figure 30: Location of the Modification 1 overland conveyor investigation area of Scarp (2010b: Figure 3) showing heritage survey transects and Aboriginal sites located.

Mount Pleasant Overview, AHIP #C0002053 (Cameron and Deacon 2016)

RTCA and CQCHM (Cameron and Deacon 2016) prepared an Aboriginal cultural heritage assessment report to support an application by RTCA for a new AHIP over the 2,780 hectare portion of the MPO in which impacts within the initial six years of the project were anticipated to occur.

The new AHIP was required because the previously issued AHIP (AHIP #C0002092, originally issued by the OEH on 23 December 2011 as AHIP #11311247) was due to expire and did not address all of the proposed impact areas, which had subsequently altered after RTCA reviews and changes to the development footprint.

Consultation was undertaken by RTCA with the OEH, and rather than a variation to AHIP #11311247, a new AHIP application was required. AHIP #C0002053 was subsequently approved by the OEH on 25 August 2016 (refer to Figure 3).

It is noted that while the initial intention was to surrender AHIP #11311247, following sale of the MPO to MACH Energy, the AHIP was transferred to MACH Energy as AHIP #C0002092 on 8 September 2016. On 24 November 2016 the OEH approved an application by MACH Energy to extend the validity of AHIP #C0002092 until 23 December 2020. AHIP #C0002092 initially partially overlapped the newly issued AHIP #C0002053, an issue that was rectified on 23 May 2017 when the OEH approved an application by MACH Energy to reduce the size of the AHIP area, such that it did not overlap with AHIP #C0002053.

The Cameron and Deacon (2016) assessment largely comprised an overview and synthesis of the extensive previous surveys and Aboriginal community consultation undertaken by RTCA in relation to the MPO. However, the results of test excavations conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) were included for the first time, and are discussed below.

A number of areas had been identified by Cameron and Deacon (2016) as locations where sub-surface Aboriginal cultural material might be encountered throughout the Mount Pleasant Mining Lease. A program of test excavation was undertaken by Cameron and Deacon (2016) and representatives of the Aboriginal community over two weeks in June and July 2011 to test for the presence or absence of sub-surface cultural heritage material.

A total of 45 test units, each measuring 0.5 x 0.5 metres in area, were excavated across 11 PADs within the AHIP Area (refer to Figure 32). Artefacts were only identified in two locations, Test Pit 12 in PAD #4 on a ridge crest (two artefacts) at MGA reference [redacted] and Test Pit 68 in PAD #34 on a creek terrace (11 artefacts) at MGA reference [redacted]. Twelve of the artefacts were of silcrete, and almost all were unmodified flakes or portions. The artefacts were reburied within the test units (Cameron and Deacon 2016), although neither location appears to have been registered as a site with AHIMS or added to the MPO Aboriginal Site Database (corrected here with Revision 4).



Figure 31: Location of the overland conveyor additional investigation area of Scarp (2015: Figures 5 and 6) showing heritage survey transects and Aboriginal sites located.



Figure 32: Test excavation locations of Cameron and Deacon (2016) within the AHIP #C0002053 application area.

Mount Pleasant Water Supply Pipeline (Kuskie 2016)

South East Archaeology was engaged by MACH to undertake an Aboriginal heritage due diligence assessment for a proposed water supply pipeline route and pump station, approved under Development Consent DA 92/97, to extract water from the Hunter River to supply the MPO.

A pump station adjacent to the Hunter River, along with an approximately 500 metre length of above-ground water pipeline, were to be installed in an area not covered by an AHIP. As the exact pipeline route and pump station location had not been finalised prior to the field inspection, the 12.3 hectares of survey areas within Lot 101 DP 1148987 as shown on Figure 33 was taken to be the investigation area (Kuskie 2016).

An assessment under the OEH (now Heritage NSW) *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010a) was undertaken, and involved a field inspection conducted on 28 October 2016 by South East Archaeology, accompanied by representatives of the Aboriginal stakeholders for the MPO.

Notwithstanding dense vegetation constraining surface visibility, in minor exposures associated with a vehicle track and erosion around a drainage, two small open artefact sites were identified (refer to Figure 33):

- Site "MPO Water Pipeline 2/A" (AHIMS #37-2-5471) comprised a single artefact (tuff retouched utilised piece) on the edge of the bank of the Hunter River; and
- Site "MPO Water Pipeline 3/A" (AHIMS #37-2-5472) comprised two conjoining tuff flake portions five metres south of a drainage channel and 85 metres north of the bank of the Hunter River (Kuskie 2016).

The significance of these finds is that they indicate the potential for stone artefact deposits to occur across the Hunter River valley flat and associated terraces, in contrast to statements by previous researchers (eg. Rich 1993) who have argued that the Hunter River alluvium/flats have been subject to processes that would have obscured or destroyed most evidence of Aboriginal occupation (Kuskie 2016).

It is noted however, that minimal systematic archaeological survey or excavation had previously occurred in these contexts to test such hypotheses (and the effects of sediment deposition may generally obscure evidence in the alluvial floodplain contexts). The survey and test excavations conducted by South East Archaeology (Kuskie in prep.) ten kilometres south-west of the MPO for the Spur Hill Project also provide evidence that artefacts occur within the Hunter River alluvial zone (Kuskie 2016).

Mount Pleasant Scarred Tree Reassessments (Kuskie 2017a-c, 2019, Burns 2017a-c, GSS 2019)

South East Archaeology and Dr Mark Burns of Global Soil Systems (GSS) were commissioned by MACH on four occasions to reassess previously reported scarred trees within the MPO (refer to Figure 34):

- Kuskie (2017a) and Burns (2017a) reassessed four previously reported trees (MTP-51, MTP-77, MTP-99 and MTP-111), with a field inspection on 5 January 2017;
- Kuskie (2017b) and Burns (2017b) reassessed 11 previously reported trees (MTP-56, MTP-75, MTP-81, MTP-340, MTP-577, MTP-781, MTP-825, MTP-901, MTP-1269, MTP-1274 and MTP-1732), with a field inspection on 21 March 2017;



Figure 33: Location of the South East Archaeology (Kuskie 2016) MPO water supply pipeline due diligence investigation area, archaeological survey areas and Aboriginal heritage sites (aerial photograph, one metre contours courtesy MACH; one kilometre MGA grid; site data - *Revision 3 MPO Aboriginal Site Database 11 April 2019*).



Figure 34: Location of the 37 scarred trees reassessed by South East Archaeology and Global Soil Systems (Kuskie 2017a-c, 2019) (aerial photograph courtesy MACH; one kilometre MGA grid).

- Kuskie (2017c) and Burns (2017c) reassessed three previously reported trees (MTP-484, MTP-515 and MTP-528), with a field inspection on 24 May 2017; and
- Kuskie (2019) and Burns (Global Soil Systems 2019) reassessed 19 previously reported trees (MTP-124, MTP-146, MTP-153, MTP-161, MTP-162, MTP-213, MTP-259, MTP-263, MTP-365, MTP-370, MTP-1094, BCA-008, BCA-050, BCA-071, BCA-072, BCA-077, BCA-078, BCA-080 and BCA-084), with a field inspection on 21 and 22 January 2019.

The trees were examined and assessed against established criteria relating to scar identification and non-Aboriginal causes of scarring in the trees. The reassessments resulted in the conclusions that the scars on all 37 trees had originated from non-Aboriginal causes. Significant characteristics of the scars and trees, most notably the assessed young ages of nearly all the scars, precluded them from being of Aboriginal cultural origin.

Kuskie (2017a-c, 2019) recommended that the recordings should be removed from AHIMS and managed on the basis that they are not features of relevance to Aboriginal occupation of the locality of the MPO. The OEH (now Heritage NSW) subsequently confirmed acceptance of this strategy and these trees now are listed on the MPO Aboriginal Site Database as 'non-sites'.

Mount Pleasant Modification 4 (Regal et al 2017)

Niche Environment and Heritage (Regal *et al* 2017) undertook an Aboriginal cultural heritage assessment for Modification 4 at the MPO, which involved the proposed duplication of an approved rail spur and other infrastructure, and removal of redundant approved infrastructure within the Bengalla Mine area.

Although the assessment considered their entire study area of 455 hectares, the focus was on those areas outside of the existing AHIPs that had not been subject to previous heritage survey (approximately 216 hectares). The area subject to survey and assessment was larger than the refined impact area, which would only involve approximately 47 hectares of additional impacts outside of the existing AHIP area (refer to Figures 4 and 35).

A heritage survey was undertaken over two days and test excavations were undertaken over five days in October 2017, with the participation of the RAPs for the MPO. The survey areas were largely located on the Hunter River floodplain and partially on the adjacent hills and slopes.

The test excavations comprised 0.5 x 0.5 metre units excavated in four areas (refer to Figure 36):

- Test Area 1 – 14 units excavated at intervals of 20 metres in an 80 x 40 metre grid pattern on a ridge crest, for a total area of 3.5 m^2, with no artefacts recovered;
- Test Area 2 – 5 units excavated at intervals of 20 metres in a maximum 60 x 20 metre grid area on the western bank of the Hunter River, with two units expanded into 1 m^2 units, for a total area excavated of 3.25 m^2, with no artefacts recovered;
- Test Area 3 – 11 units excavated at intervals of 20 metres in a maximum 60 x 40 metre grid area on a spur crest, for a total area of 2.75 m^2, with one artefact recovered; and
- Test Area 4 – 12 units excavated at intervals of 20 metres in a maximum 80 x 40 metre grid area on an alluvial terrace of the Hunter River, with one unit expanded into a 1 m^2 unit, for a total area excavated of 3.75 m^2, with 17 artefacts recovered (Regal *et al* 2017).

The survey and test excavations resulted in the identification of five Aboriginal sites (refer to Figure 37):

- MPO 2017/1 (#33-2-0027) – an isolated artefact on an unformed track on the west bank of the Hunter River (outside of the MPO Aboriginal Site Database Area);
- MPO 2017/2 (#33-2-0026) – an isolated artefact on a steep lower slope of a ridge adjacent to the floodplain;
- MPO 2017/3 (#33-2-0025) – an isolated artefact on the floodplain of the Hunter River and Rosebrook Creek;
- MPO 2017/4 (#33-2-0028) – a sub-surface deposit of artefacts (17 in total) located on an alluvial terrace of the Hunter River, during the Test Area 4 excavations; and
- MPO 2017/5 (#33-2-0029) – a sub-surface deposit of a single artefact located on a small hill just above the floodplain of the Hunter River, during the Test Area 3 excavations (Regal *et al* 2017).

As a component of the assessment, Gippel (2017) investigated the geomorphology of the locality, and consistent with earlier studies by Hughes (eg. 2000), concluded that the potential for finding evidence of late Pleistocene Aboriginal occupation on the hill-slope was low. However, Gippel (2017) concluded that on the Hunter River floodplain, the area with the highest potential of finding preserved sub-surface evidence would be on the western side, near the interface of the floodplain and colluvial hillslope.

A total of 21 artefacts were identified by Niche, all but three in the test excavations. Regal (*et al* 2017) concluded that the identified sites were of low heritage significance and generally of low archaeological potential. The conclusion regarding archaeological potential in our view is not consistent with well-established occupation models (eg. Rich 1993, Kuskie and Kamminga 2000, Kuskie 2000) or the results from extensive studies in the locality (eg. Kuskie 2000, Kuskie and Clarke 2004), given the adjacent primary resource zone of the Hunter River.

Regal (*et al* 2017) recommended that MACH obtain an AHIP for the impacts associated with the Modification (subsequently granted as AHIP #C0004783).

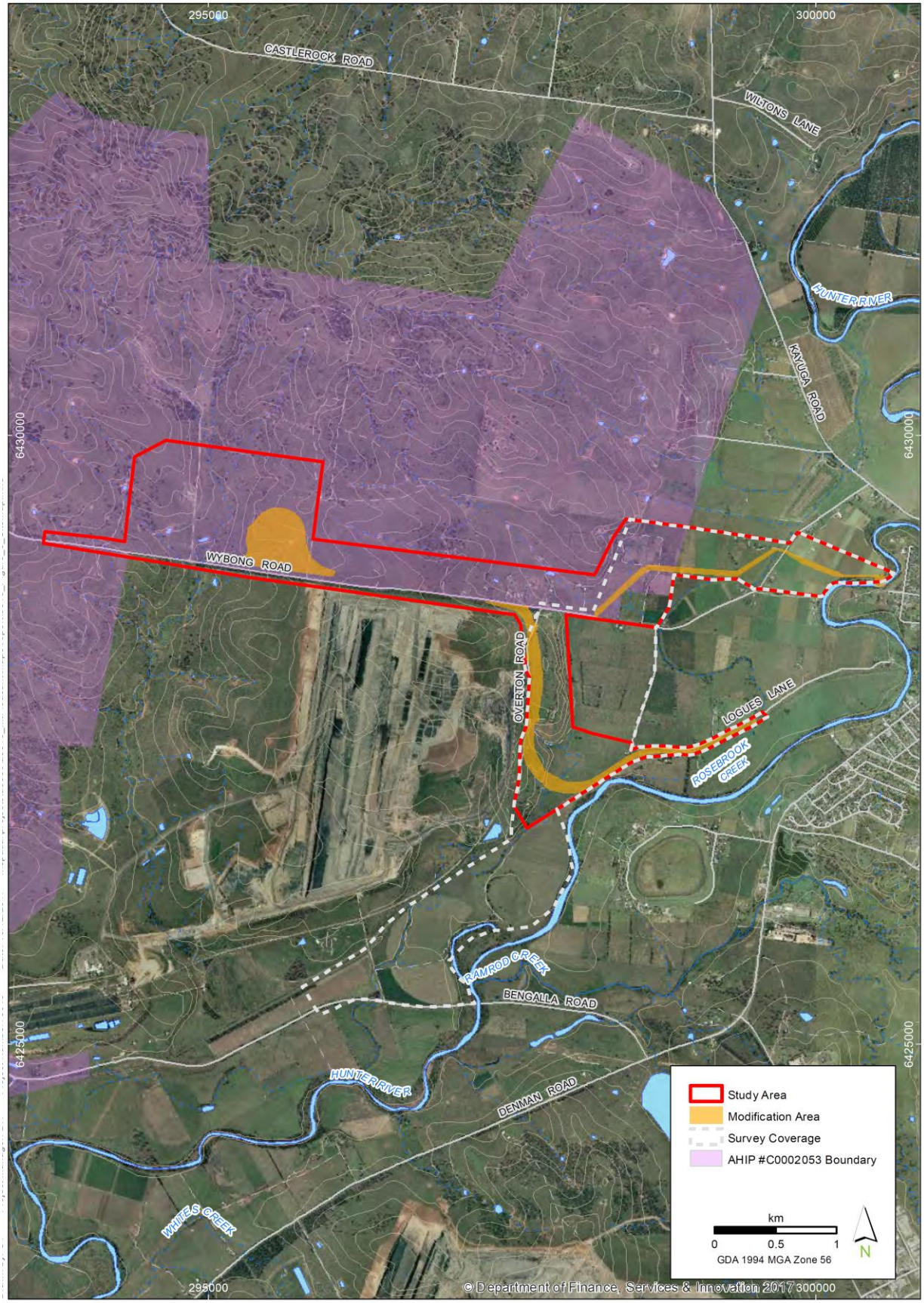


Figure 35: The Modification 4 investigation and survey areas of Niche (Regal *et al* 2017).

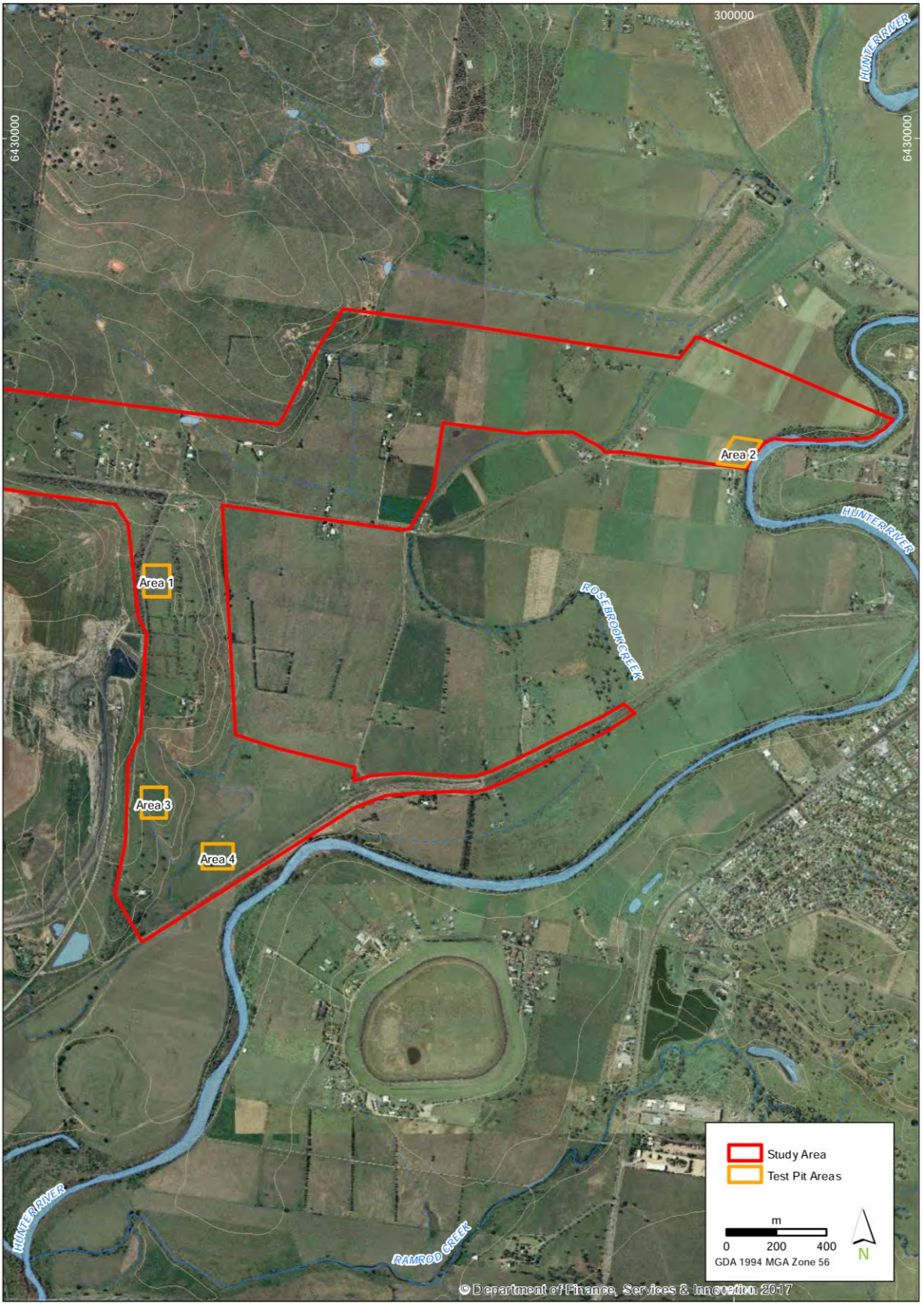


Figure 36: Location of the Modification 4 test excavation areas of Niche (Regal *et al* 2017).



Figure 37: Location of the Modification 4 Aboriginal sites located by Niche (Regal *et al* 2017).

Mount Pleasant AHIP #C0002053 Salvage (RPS 2018)

RPS (2018) reported on the salvage of numerous sites within the MPO completed under AHIP #C0002053 (refer to Figures 38 and 39).

Salvage fieldwork was undertaken over an eight week period between September and November 2016 by RPS (2018) and representatives of the RAPs for the MPO.

The salvage included the surface collection of 616 sites, all of which were located north of Wybong Road (except #37-2-0596, located south of Wybong Road).

Sub-surface investigations were undertaken at six sites (#37-2-0596, #37-2-1467, #37-2-1468, #37-2-1474, #37-2-1475 and #37-2-1462/1464) (Figure 39). Another site, #37-2-1474, was excavated only to recover artefacts buried by RTCA after previous test excavations. Re-buried artefacts were also recovered from #37-2-3597. RPS (2018) also excavated #37-2-3597 and #37-2-3332 at the request of the Aboriginal stakeholders and on the basis of landform context and surrounding sub-surface results.

In total, 75 units, each measuring 0.5 x 0.5 metres in area, were excavated and only 98 artefacts recovered from 3.1 m^3 of deposit. The deposits were generally very shallow, with an average depth of 0.11 metres. Artefact densities were very low, indicative of background discard and not discrete activity areas.

A number of sites north of Wybong Road had already been salvaged by Bengalla Mine and the sites south of Wybong Road had also been salvaged by Bengalla, with the exception of #37-2- 0596 (RPS 2018).

RPS (2018) salvaged the stone artefact sites but not any reported scarred trees. Details for every site within the MPO Aboriginal Site Database Area, including notes on the salvages conducted, are included here in Appendix 7.

A total of 5,185 artefacts were retrieved during the surface collections and 98 from the excavations. The combined surface assemblage was dominated by silcrete (67.1%), with a lower frequency of tuff (17.8%) and minor frequencies of other materials such as quartzite, chert, basalt, porcellanite, petrified wood, chalcedony, rhyolite and quartz (RPS 2018). The combined surface assemblage was dominated by flakes (70.2%), "angular fragments" (16%), and cores (9.8%), with low frequencies of other items including 12 axes, a 'reworked ground hatchet' and a grindstone (RPS 2018).

RPS (2018) sought to analyse the results by reference to arbitrary 'west', 'central' and 'east' landscape zones. RPS (2018) claim that the 'west landscape zone' was "the most heavily occupied and characterised by base camp occupation centred on the Sandy Creek tributary which is a third order stream". RPS (2018) claim that the 'east landscape zone' was "characterised by transit camp occupation and was centred on three second order streams", while the 'central landscape zone' was "the least occupied and comprised transit camp occupation centred around the upper catchment of Dry Creek". Other speculative conclusions about travel routes, caching of axes and relationship of stone material frequency with 'base camps' and 'transit camps' were made, which upon review are problematic to support.

Mount Pleasant AHIP #C0002092 Salvage (Kuskie 2020)

South East Archaeology was commissioned by MACH in October 2018 to salvage approximately 47 open artefact sites within a "Heritage Salvage Area" comprising part of the area to which AHIP #C0002092 applies (refer to Figure 40).



Figure 38: Location of the RPS (2018: Figure 4.1) salvage area and Aboriginal sites subject to surface collection.

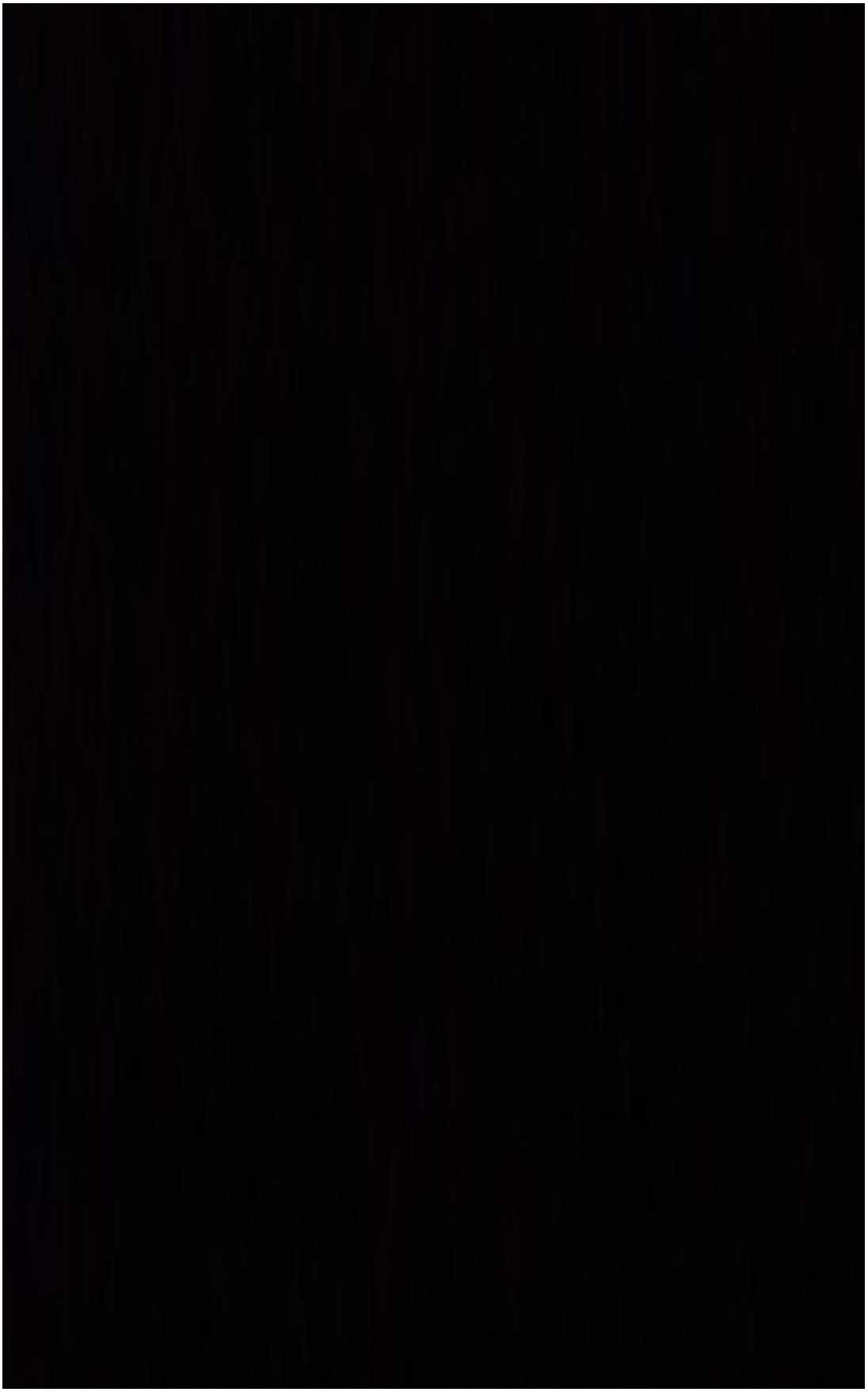


Figure 39: Location of the RPS (2018: Figure 5.1) Aboriginal sites subject to salvage excavation.

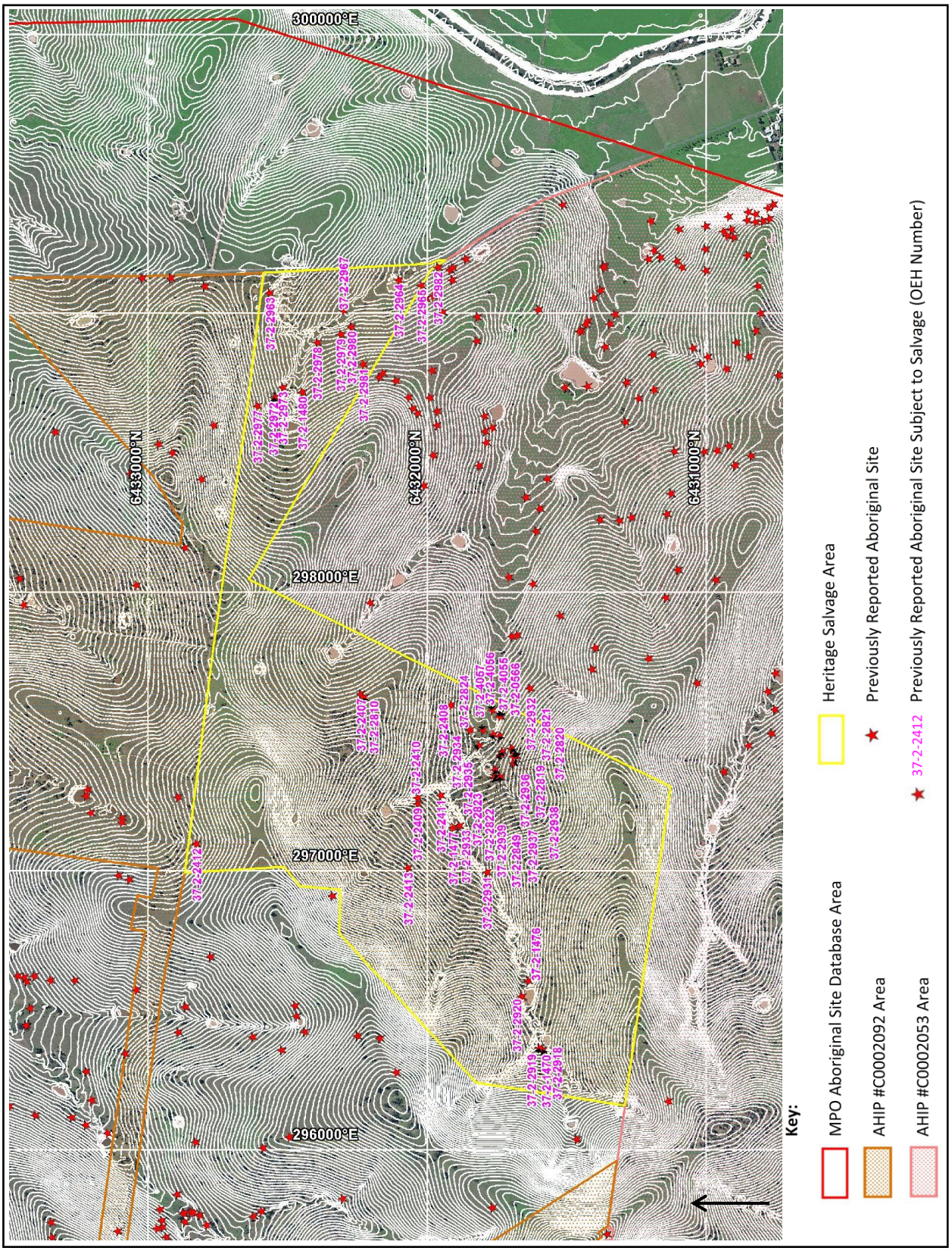


Figure 40: Location of the South East Archaeology AHIP #C0002092 2018-2019 heritage salvage area (Kuskie 2020) and previously recorded Aboriginal heritage sites requiring salvage (aerial photograph, one metre contours courtesy MACH; one kilometre MGA grid; site data from *Revision 1 MPO Aboriginal Site Database 14/11/2018* prior to salvage).

The salvage involved surface collection and salvage excavations and was undertaken in accordance with the Conditions of AHIP #C0002092 and the RTCA (2014) ACHMP and relevant sections of the OEH (now Heritage NSW) *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).

The salvage was undertaken over 16 days between December 2018 and February 2019, by qualified archaeologists from South East Archaeology and representatives of the RAPs for the MPO. Salvage excavations were completed at sites #37-2-0566 (Castle Rock Road 1) / #37-2-4055 (MTP-334), #37-2-1470 (E2), #37-2-1476 (E4), #37-2-1477 (E11), #37-2-2920 (MTP-117) and #37-2-4057 (MTP-336).

A total of 1,125 artefacts were retrieved during the salvage. The combined assemblage comprised a range of stone materials, with tuff (38%), silcrete (33%) and chert (16%) predominant. The combined salvage assemblage was dominated by items relating to non-specific stone knapping, such as flakes (20%), flake portions (24%) and lithic fragments (33%). Also present were items relating to microblade manufacturing, such as microblades, microblade cores and microblade portions (5.6% of the assemblage), backed artefacts or portions (3.3%) and other utilised and/or retouched artefacts (12.4%) (Kuskie 2020).

3.2.2 Bengalla

Bengalla Survey (Rich 1993)

Rich (1993) surveyed a 13 km^2 area for the proposed Bengalla open cut coal mine over 11 days between November and December 1992. The Bengalla survey area is located immediately south of the MPO and encompasses portions of the MPO SSD Area (refer to Figures 41-43).

The Bengalla area comprised undulating terrain dominated by simple slopes and crests, similar in nature to the adjacent MPO. One permanent creek and many gullies drained the site south into the Hunter River floodplain.

Rich (1993) delineated eight 'land units' within Bengalla (refer to Figure 42). However, the basis of defining these 'land units' was not landform elements (eg. McDonald *et al* 1984), but what Rich (1993) identified as landform patterns, defined in relation to hypotheses about Aboriginal occupation and existing knowledge of site distribution in the region. A consistent approach was used by Rich (1995) for Mount Pleasant (refer to Section 3.2.1).

In total, 58 sites were identified by Rich (1993), all of which were artefact scatters or isolated finds. Extensive survey coverage was achieved across the Bengalla study area in the 65 person-day survey (refer to Figure 43). The highest number of artefacts in a site was 321 at B1, with 239 recorded at B30, 177 at B10 and 142 at B29.

Rich (1993) considered that:

- The 'Hunter alluvium/flats' had been subject to processes that would have obscured/destroyed most evidence of Aboriginal occupation;
- The Hunter River was a permanent source of water and attraction for game, therefore repeated and frequent use of the locality would result in evidence occurring on slopes and bluffs adjacent to the flats. During the field survey, 'rises above the flats' were distinguished from 'bluffs above the flats' because few sites were being identified within broad exposures on the bluffs but dense concentrations of artefacts were found on the low rises; and

- 'Gullies generally', 'gullies within 500 metres of the Hunter flats' and the 'main creek' were identified as separate units in response to known site patterns (much evidence has been identified along watercourses and artefact density decreases away from streams; and artefact density decreases along gullies away from major streams). The gully units included an arbitrary width of 50 metres on both sides and the main creek included 100 metres on each side.

Slopes and ridges were combined, negating the possibility of testing hypotheses about Aboriginal occupation relating to these units.

Archaeological evidence was identified in all of the terrain units within the Bengalla study area, although the sites within the combined slopes and ridges landform tended to have a significantly lower artefact density and their distribution was much more dispersed. Rich (1993) noted that there may have been more sites at Bengalla than those visible due to extensive modification of the landscape through ploughing.

A total of 1,760 artefacts were recorded during the survey. Dominant stone materials identified were silcrete (60% of the assemblage), tuff (26%), volcanics (4%), quartz (4%) and 'others' (6%). Cobbles of petrified wood were noted during the survey. A source of silcrete was identified at site B10 (a lithic quarry site) (Rich 1993). The combined assemblage was dominated by non-specific flaking debitage (82%), with cores (8.5%), utilised/retouched items (7.1%), backed artefacts (1.3%) and axes and pebble tools (1.1%) (Rich 1993).

Rich (1993) suggested that three stone industries were present at Bengalla:

- A microblade (backed artefact) industry;
- A small flake tool industry; and
- A large tool industry that included large retouched flakes, unifacial and bifacial pebble tools, hatchets, hammerstones and a grindstone.

These 'industries' tended to be identified on different terrain units, with the microblade industry concentrated along main creeks and gullies, the small flake tool industry focused along minor gullies, hillslopes and ridges and the large tool industry being more widely dispersed throughout the landscape, but tending towards Hunter River flats and on slopes and ridges away from the flats.

Bengalla Salvage (White 1998)

White (nee Rich; 1998) conducted salvage excavations and detailed analysis of evidence from two sites, B10 (#37-2-579, a silcrete lithic quarry site) and B33 (#37-2-602, an artefact scatter) as part of actions under Section 90 Consent Permit #SZ133 at Bengalla. The sites are located adjacent to the SSD Area, as shown on Figure 44.

At both sites the predominant stone material utilised was silcrete, although a range of other stone materials was also present (White 1998). The excavation and analysis of the material was undertaken to test a distance-decay model for the exploitation of silcrete. In this model, the artefact assemblages at or within one kilometre of the silcrete source would show little selectivity of the material and no stone material rationing, while assemblages over two kilometres from the silcrete source would indicate selectivity and changed reduction discard strategies (White 1998).

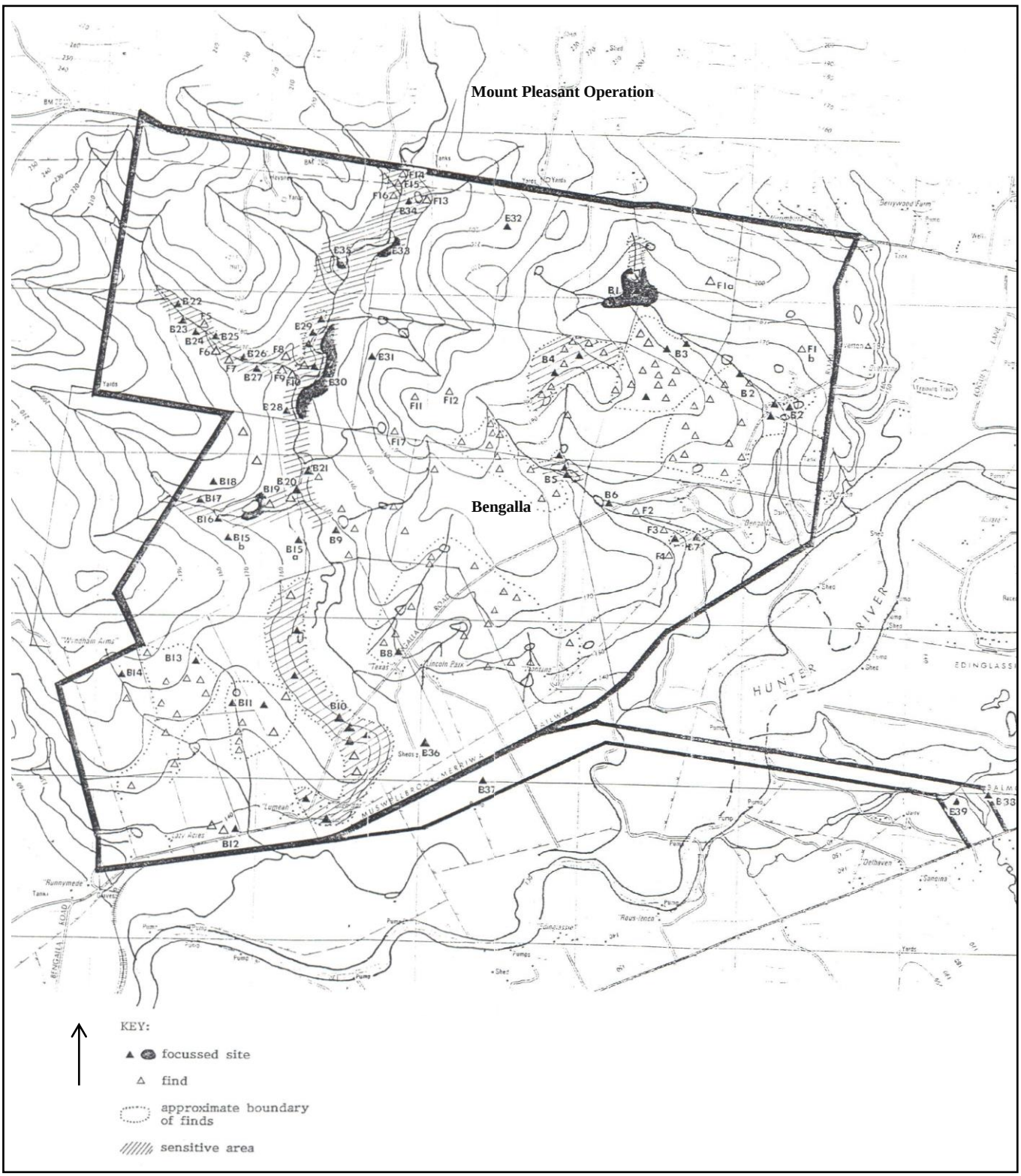


Figure 41: Bengalla survey area of Rich (1993: Map 2) and Aboriginal site locations (Muswellbrook 9033-II-N 1:25,000 topographic map reduced).

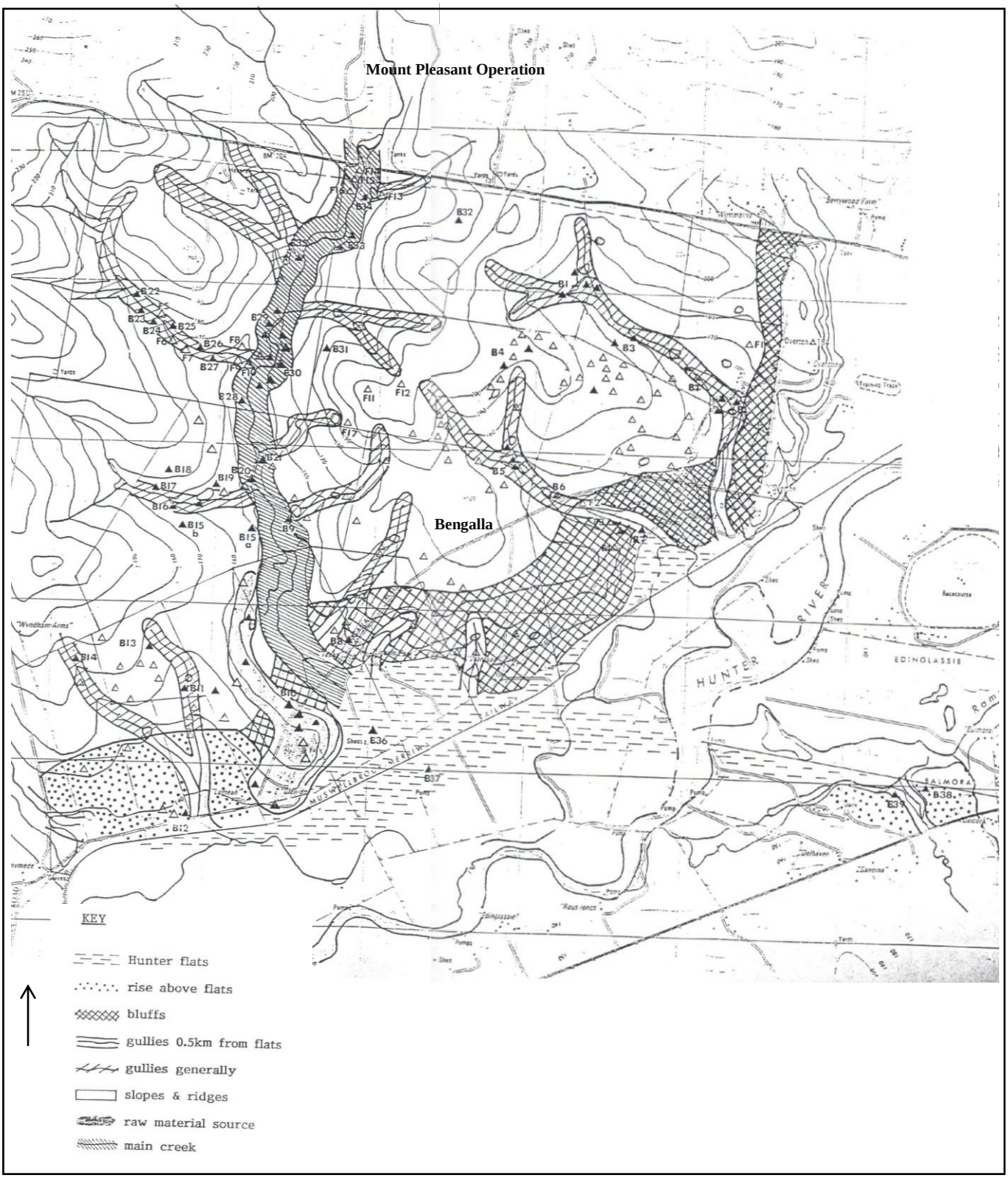


Figure 42: Land units identified by Rich (1993: Map 5) in the Bengalla area and Aboriginal site locations (Muswellbrook 9033-II-N 1:25,000 topographic map reduced).

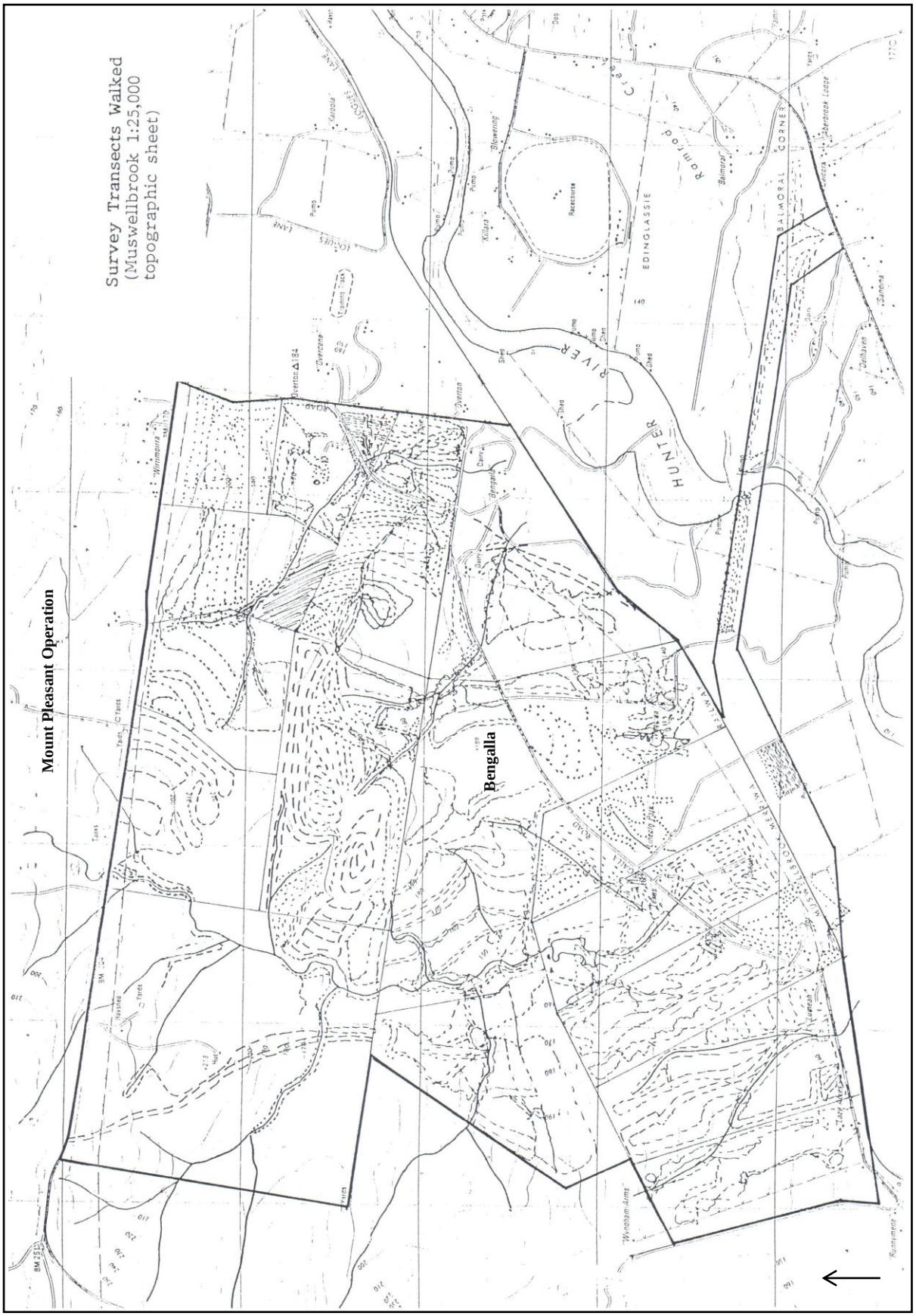


Figure 43: Bengalla survey transects of Rich (1993: Map 4) (Muswellbrook 9033-II-N 1:25,000 topographic map reduced).

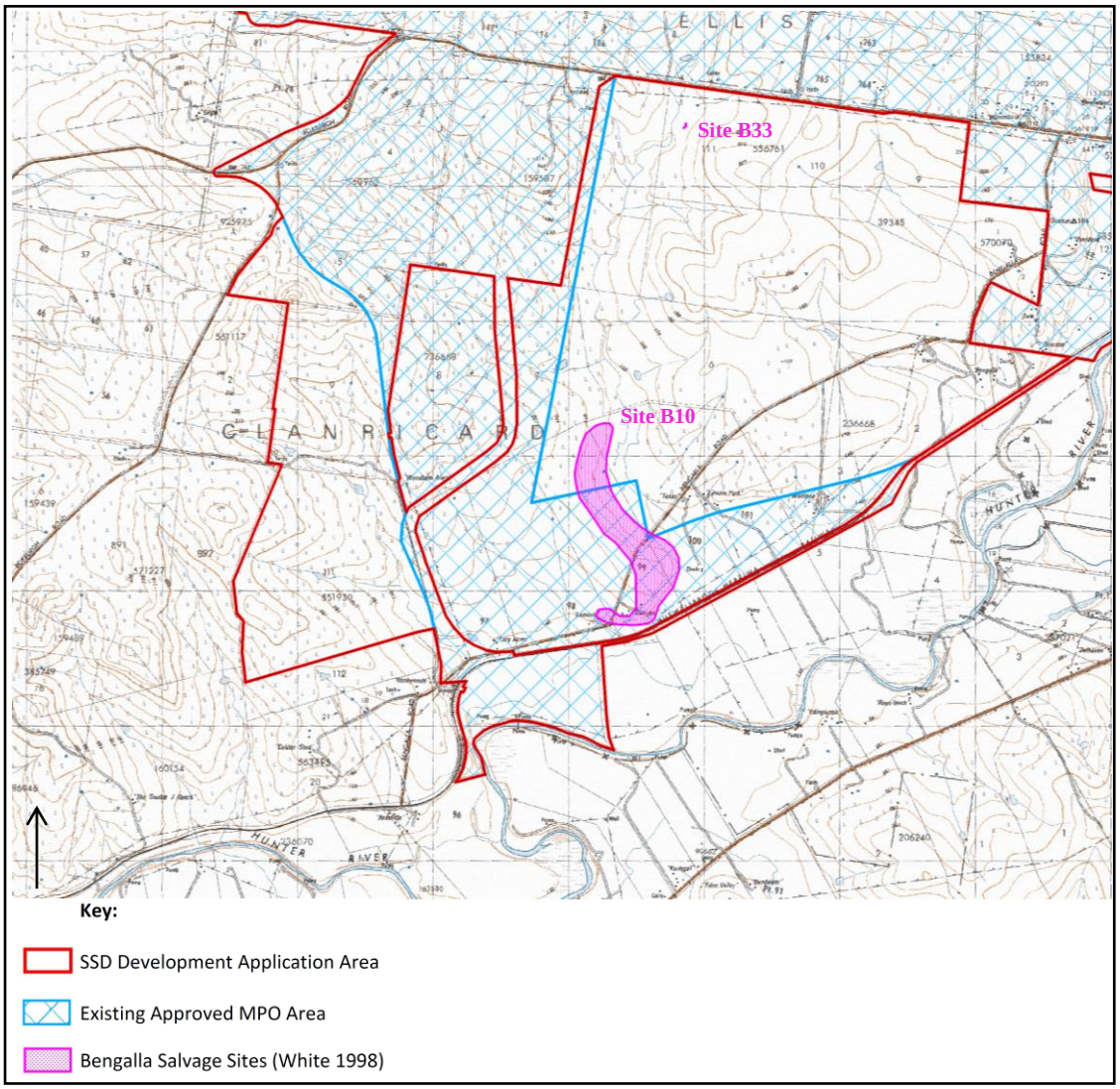


Figure 44: Location of sites B10 and B33 excavated by White (1998) in the Bengalla area (Muswellbrook 9033-II-N 1:25,000 topographic map reduced).

The methodology at site B10 involved excavation at two different locations, one an 'outcrop' zone where naturally occurring silcrete was visible (B10-1) and the other at a 'non-outcrop' area where no such materials were obvious on the surface (B10-2). In addition, an area recorded as 'sample area 6' was also the focus of a surface collection (White 1998).

The two excavation areas were divided into quadrats of 10 x 5 metres and one selected randomly from each location for collection and excavation (White 1998). At B10, the two excavation locations known as B10-1 and B10-2 were separated by a distance of 35 metres (White 1998). B10-1 included outcrops of silcrete boulders and the excavation of squares in 'line 6' was undertaken (White 1998). At B10-2 no boulders were visible or recovered during the excavation (White 1998).

Site B10 was situated on the margins of a ridge about 5-20 metres above the Hunter River floodplain. Stone materials including silcrete, petrified wood and numerous others outcropped in a band five metres thick located 15-20 metres above the floodplain (White 1998). A total assemblage of 4,454 lithic items was recovered from B10-1, and of these items, 4,126 (93%) were silcrete (White 1998). The majority of the silcrete items did not exhibit cortex (White 1998). However 32.5% of flaked artefacts made of petrified wood displayed cortex in comparison with 16% of flaked silcrete artefacts (White 1998).

The varying amounts of cortex were considered to be related to factors such as the size of the original cobbles and the degree and type of reduction sequences utilised (White 1998). White (1998) noted that the assumption that assemblages at extraction/quarry sites will display high frequencies of cortex or that non-quarry assemblages of assemblages some distance away from a quarry will have a low frequency of cortex cannot be made.

Of the artefact assemblage, 3,343 lithic items (75%) were categorised as heat shatter, 'heat shatter/something flaked' and 'unidentified pieces', leaving 1,202 items (25%) in defined artefact categories (White 1998). Other debitage items included flakes, broken flakes, bipolar pieces, cone-split broken flakes, flake fragments and flaked pieces, amounting to 1,068 items (24% of the lithic item assemblage) (White 1998). The remaining items were those that could confidently be attributed as artefacts, such as hammerstones/anvils, cores, retouched flakes and retouched/utilised flakes (White 1998). Only ten silcrete flakes, two petrified wood flakes, one quartzite flake and two unidentified flakes were larger than ten centimetres in size and White (1998) observed a trend for the silcrete heat shatter pieces to be smaller in size than the flaked artefacts.

Three boulder cores, 32 cores and four core fragments were present at B10-1 and the evidence was interpreted by White (1998) as representing initial flaking of exposed silcrete boulders, the utilisation of large flakes as cores, with flakes being struck from these and in turn used as cores or subject to heat treatment and flaked further. Bifacial flaking was noted as being unusual in the assemblage from B10-1 (White 1998). The various reduction strategies represented at B10-1 resulted in lithic item densities of up to 1,200 flaked and heat shattered pieces per square metre (White 1998).

The lithic item assemblage from B10-2 comprised a total of 222 items (White 1998). At this excavation, 122 silcrete items comprised 55% of the total assemblage, with 45 items of fine grained siliceous material comprising 20% of the total. Heat shatter, heat shatter/flaked pieces and unidentified pieces comprised a total of 91 items or 41% of the total assemblage, while debitage (flakes, broken flakes, bipolar pieces, cone-split broken flakes, flake fragments and flaked pieces) amounted to 110 items (50% of the assemblage). Cores, core fragments, retouched items and retouched/utilised items only amount to 21 items or 9% of the total assemblage (White 1998).

A range of stone working activities were interpreted as being represented at B10. The area of B10-1 was interpreted as representing an area of silcrete reduction, including both flaking and heat treatment of items (White 1998). The exposed portions of large silcrete boulders were flaked, with the flakes being subsequently used as cores and occasionally subject to heat treatment to improve their flaking qualities (White 1998). The reduction activities were considered to have possibly been conducted in order to create cores suitable for transport to other locations within site B10 or other sites in the area. No systematic tool or backed blade production was represented at site B10-1 (White 1998). White (1998) postulated that at B10-2 selected cobble cores and possibly preformed tools were transported to the area.

White (1998) discussed the stone tool assemblage analysis in reference to literature regarding other quarry sites. From the predicted quarry site assemblage characteristics and quarry site distance decay models, White (1998) presented a number of possible characteristics which could be expected of the B10 assemblage. The main characteristics to be expected of the assemblage would be:

- That artefacts of the same naturally occurring stone material will be present and that artefacts of the quarried material may be predominant over artefacts of imported stone materials (although the reverse may occur on a 'minor' quarry site); and
- There will be artefacts made of varying quality stone material (White 1998).

The artefact scatter at site B33 was also divided into 10 x 5 metre quadrats and one quadrat selected randomly for excavation (White 1998). This excavation location was referred to as B33-1 and excavation of 1 x 1 metre squares within this zone was undertaken, in addition to surface collection of finds from the rest of the visible extent of the site and the excavation of a concentration of artefacts in a 3 x 2.5 metre area known as B33-2 (White 1998). The deposit at B33-2 was less than 0.1 metres deep and included a large amount of ironstone gravel.

Site B33 was situated three kilometres north of the excavated areas of site B10 and was located adjacent to the same creek (White 1998). The site was on a gentle slope on the eastern side of the creek and was selected for salvage in order to determine whether stone material rationing was occurring at the site (White 1998). Two discrete areas (B33-1 and B33-2) were excavated (White 1998).

A total of 142 lithic items were recovered from B33-1, 110 items (78% of the assemblage) of were silcrete, 11 (8%) quartz, ten (7%) igneous materials, eight tuff, two quartzite and one item of unidentified stone material. Of the silcrete items 96% did not exhibit any cortex, however most of the igneous items (80%) did have some cortex, while 50% of the tuff items also had cortex. Two bondi points and a broken edge-ground hatchet were recovered from B33-1, while no heat shattered items were identified. Of the total lithic assemblage, 90% comprised flakes, flake portions, flake fragments and flaked pieces while the remaining 10% comprised an anvil fragment, edge-ground hatchet fragments, used flakes, manuports, bondi points and cores (White 1998).

A total of 523 lithic items were recovered from the excavation at B33-2, with 452 items (86% of the total assemblage) silcrete and 64 items (12%) tuff. The assemblage was dominated by flakes, flake portions, flake fragments and flaked pieces (62% of the total assemblage), while heat shattered pieces and heat shatter/flaked pieces formed 36.5% of the assemblage. Only 1% of the total assemblage comprised manuports, bondi points, geometric microliths and cores. Approximately 92% of the tuff lithic items and 86% of the silcrete items were less than 30 millimetres in length. The presence of cortex on silcrete items was uncommon (occurring on only 7% of items), however, 40% of tuff items exhibited some cortex. Three backed artefacts and four cores were present at B33-2, with no evidence identified that the backed items were created on site (White 1998). Activities represented at the site were considered to be flaking of unheated cores imported to the site, on-site heat treatment and flaking of heated cores (White 1998). White (1998) considered that the evidence from this site indicated only transient use of the area or short term camping.

White (1998) undertook analysis to determine whether the hypothesis presented in the research design regarding stone rationing was supported by the archaeological evidence. The lithic assemblages were analysed to test the suggestion that various strategies were utilised with increasing distance from the source of stone and that these strategies resulted in differing effects on artefact assemblages. The assemblages were analysed in relation to 13 stone rationing models and their effects on lithic assemblages. The distance/decay models of stone rationing strategies and the results from the data analysis were as follows (White 1998):

- Stone material quality would improve with increasing distance from source of stone. This was not supported by the data from sites B10 and B33;
- The criteria governing the selection of items to be discarded would be tightened, resulting in less cores and other artefacts being discarded away from the source of stone. The analysis of the data from B10 and B33 only provided tenuous support for this model;
- The frequency of retouched/utilised flakes would increase with the greater distance from the source of stone. This was not supported by the data from sites B10 and B33;

- A decrease in the frequency of cortex would be present away from the quarry. This model was supported by the data from sites B10 and B33;
- Core and flake sizes would reduce in relation to the distance from the stone source. The analysis of the data from B10 and B33 only provided tenuous support for this model;
- An increase in core rotation at sites distant from the stone source would be evident. The data from sites B10 and B33 was inconclusive in regards to this model;
- An increase in bipolar artefacts at sites distant from the stone source would be evident. This was not supported by the data from sites B10 and B33;
- The use of more successful knapping strategies including greater care in platform preparation and overhang removal would result in increased frequencies of platform preparation, faceted and focal platforms and overhang removal on artefacts made further away from the quarry. This was not supported/inconclusive using the data from sites B10 and B33;
- Flake elongation would increase at sites distant from the source of stone materials. This was not supported by the data from sites B10 and B33;
- Flake tool thickness would be reduced at sites distant from the quarry. The data from sites B10 and B33 was inconclusive in regards to this issue;
- The frequencies of non-quarry stone materials would increase at sites distant from the quarry. This model was supported by the data from sites B10 and B33;
- Recycling of materials would occur at sites distant from the source of stone materials. This was not supported by the data from sites B10 and B33; and
- Tool use life would be increased by retouching, reshaping and rehafting of artefacts or the utilisation of tools to a greater intensity. The data from sites B10 and B33 was inconclusive in regards to this issue.

Of these 13 hypotheses, the data supported only two (related to the frequency of cortex and non-quarry stone materials) (White 1998). White (1998) considered that the majority of the analyses do not support the stone rationing model because either the sample sizes were too small or results were explained by other factors which affected the frequency of various traits. Sites B10 and B33 were inferred to be different in some respects, however the differences could not be attributed to rationing or distance from the quarry with any confidence (White 1998). The possibility that these differences indicated varying functional differences is an example given by White (1998).

Bengalla Link Road Survey and Salvage (ERM 2007a, ENSR Australia 2008)

ERM (2007a) investigated a 46 hectare area for the Bengalla Link Road, with a heritage survey undertaken in May 2006 and a second survey in November 2007 to incorporate additional areas. Five artefact scatters and an isolated artefact were located in May 2006 (sites BMRA1-6) and three additional open artefact sites (BMRA7-9) were located in November 2007. These nine sites were subject to surface collection by ENSR Australia (2008), with 56 artefacts collected (refer to Figure 45). ENSR Australia (2008) also undertook nine minor mechanical surface scrapes in and around the site locations, with only five artefacts recovered. The salvaged artefacts were predominantly of silcrete (66%) and tuff (23%) and comprised flakes (30%), flaked pieces (25%) and flake portions (34%).



Figure 45: Bengalla link road investigation area of ERM (2007a) and Aboriginal site locations (ENSR Australia 2008: Figure 2).

Bengalla Salvage (ERM 2007b)

Further to White's (1998) salvage of the central portion of site B10, ERM (2007b) undertook a surface collection and grader scrape excavations in the central to northern portion of site B10 in 2007 under Section 90 Consent Permit #2621. A total of 166 artefacts were collected from the surface and 39 retrieved during the excavation. Consistent with the results of White (1998), most of the artefacts (90%) were silcrete. Other collections were also undertaken in June 2007 around the Bengalla infrastructure location immediately adjacent to the southern portion of the MPO SSD Area, including of sites B11 and B13, with 78 artefacts retrieved (ERM 2007b).

Bengalla Continued Operations Survey (AECOM 2013)

Further investigations at Bengalla were undertaken for the Bengalla Continued Operations Project (AECOM 2013) in relation to an EIS to support an application for Development Consent under Part 4 Division 4.1 of the EP&A Act. The AECOM (2013) study area comprised 1,356 hectares, including the proposed disturbance area of 964 hectares, within the overall Project boundary of 2,338 hectares. The currently approved Bengalla Mine was not subject to reassessment, and the study focused on the extension of open cut mining to the west of the existing Bengalla operations (refer to Figures 46 and 47).

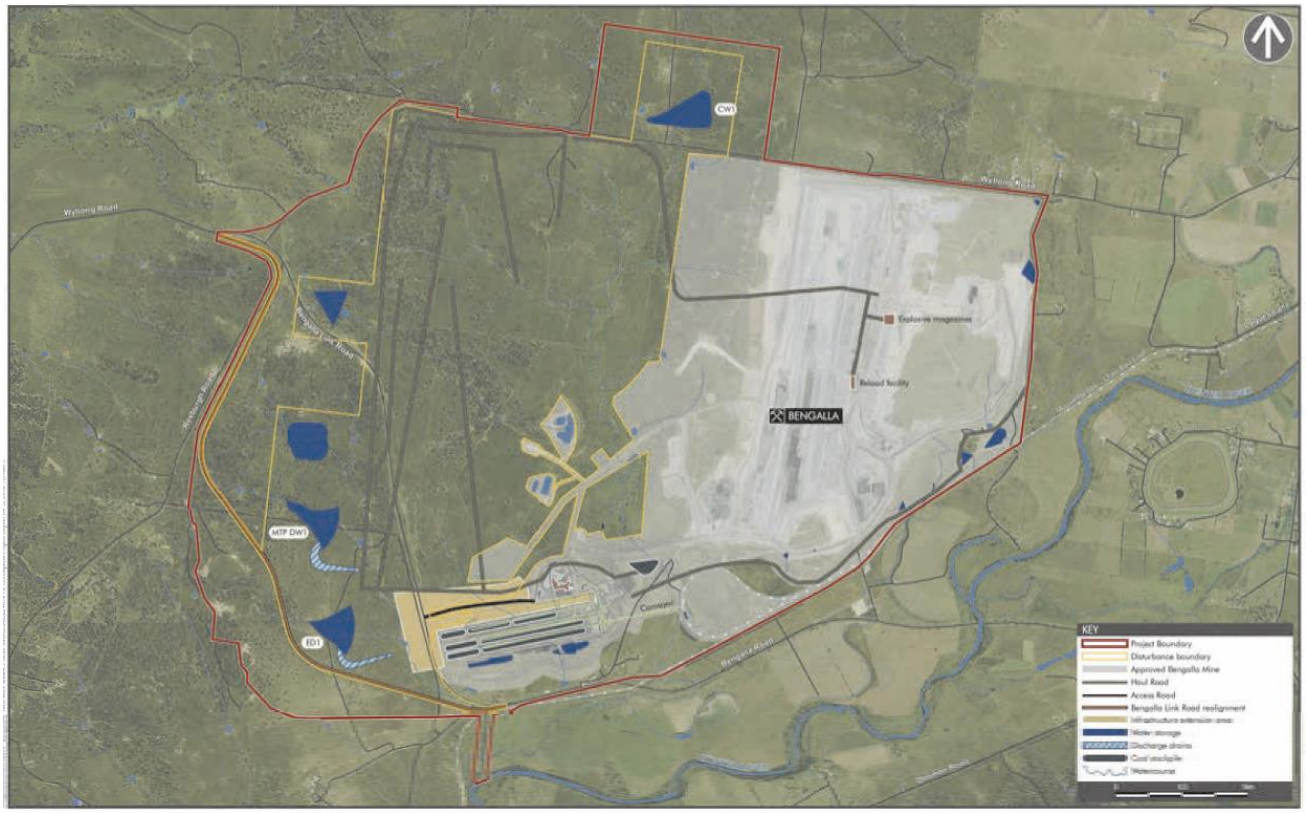
A survey was conducted by two archaeologists over 15 days in 2012 within the study area of 1,356 hectares, with representatives of the 28 Registered Aboriginal Parties. A total of 42 transects were inspected over lengths varying between 0.3 and 4.7 kilometres (refer to Figure 46). Total effective survey coverage was reported as 5.7% of the overall study area (AECOM 2013).

A total of 54 previously unrecorded open artefact sites were identified during the survey, and a number of previously recorded sites were reinspected, with 1,098 artefacts recorded in total. The 29 artefact scatters were named BM-AS01-12 to BM-AS26-12 and MTP-AS01-12 to MTP-AS03-12, and 25 isolated artefacts named BM-IA01-12 to BM-IA23-12 and MTP-IA01-12 to MTP-IA02-12 (AECOM 2013).

AECOM (2013) report that in total 289 Aboriginal sites had been identified within their study area, including 196 listed on AHIMS and 39 previously reported sites not listed on AHIMS, along with the 54 newly identified sites (refer to Figure 47).

A total of 1,098 artefacts were recorded during the survey, with the highest count of 234 at site BM-AS16-12, but a low average count of 12.9 across the newly recorded sites. The majority of artefacts were found within 50 metres of a watercourse, with density correlated to the order of watercourse (fourth order watercourses had the highest artefact density, progressively decreasing to first order watercourses). Most artefacts were found on lower slopes, with relatively few on upper slopes or crests (AECOM 2013).

The combined assemblage comprised a range of stone materials, with silcrete (67.1%) and tuff (21.1%) predominant. The combined assemblage was dominated by items relating to non-specific stone knapping, such as flakes (58.5%), "flake shatter" (21.7%), "angular shatter" (8.8%) and cores (8.1%) (AECOM 2013).



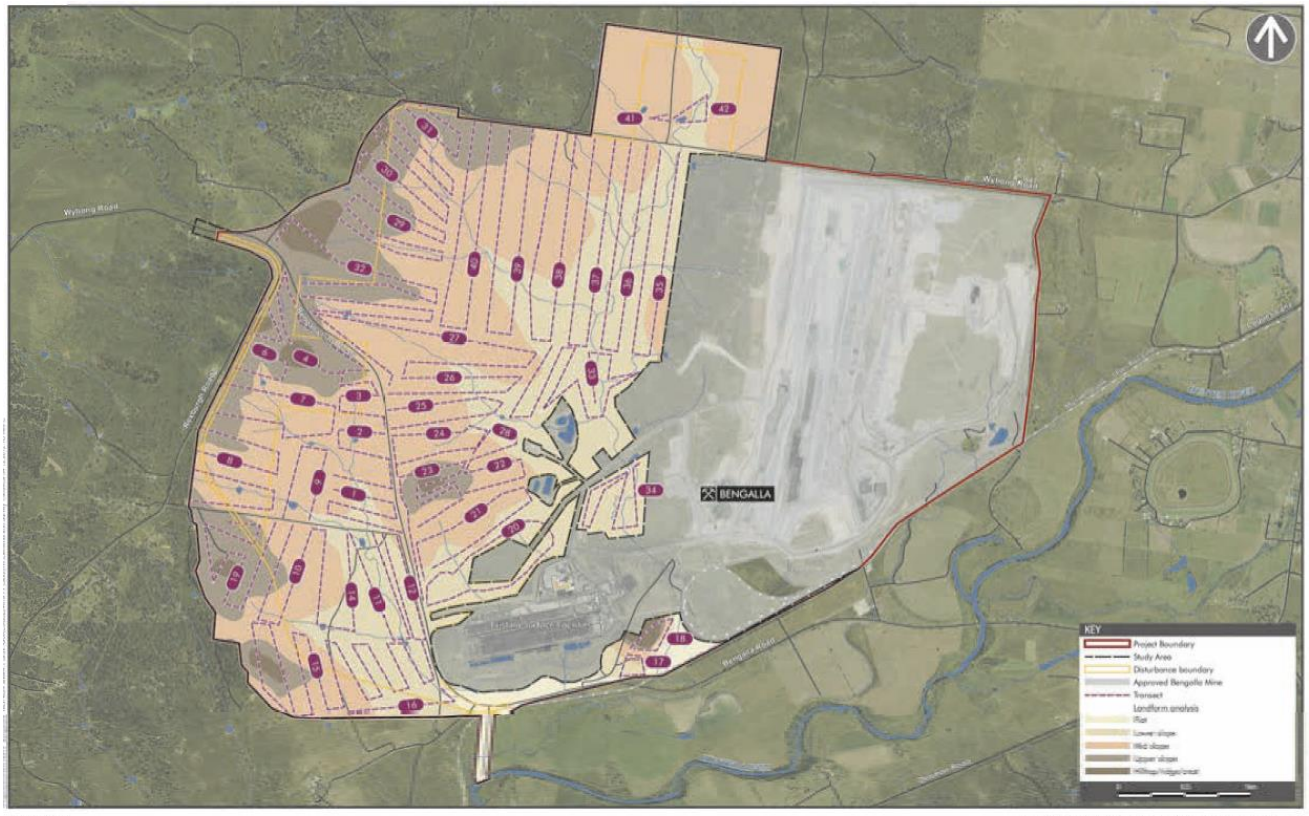


Figure 46: AECOM (2013: Figures 2 and 7) Bengalla Continued Operations investigation area and survey transects.





Figure 47: AECOM (2013: Figures 8 and 12) Bengalla Continued Operations Aboriginal site locations and areas of archaeological sensitivity.

AECOM (2013) assessed the 18 hectare southern section of the B10 lithic quarry site, which remained unaffected by development impacts, as being of high heritage significance. Six other sites were assessed as being of moderate significance, and the remaining 282 sites as were assessed as being of low significance. Sub-surface archaeological potential was assessed as high around Dry Creek but low elsewhere (refer to Figure 47). A total of 263 sites were identified as likely to be impacted by the project, almost all being open artefact sites apart from three scarred trees and the northern portion of the B10 quarry.

The primary recommendation of AECOM (2013) was that the Bengalla ACHMP be updated in consultation with the RAPs and the OEH (now Heritage NSW), with surface collection of all open sites to be impacted prior to impacts occurring, reinspection of the three scarred trees, and appropriate protective measures for approximately 17 sites within 200 metres of proposed impact areas.

Bengalla Salvage (AECOM 2017)

AECOM (2017) undertook a salvage of Aboriginal sites within the Bengalla Mine, under the Bengalla Continuation of Mining Project approval (SSD-5170) and approved ACHMP (Bengalla Mining Company 2015). The salvage occurred within the project disturbance boundary ('salvage area') shown on Figure 48.

The salvage involved surface collection of 263 previously recorded open artefact sites and a test excavation program within the Northern Exclusion Zone of the B10 quarry site (AHIMS #37-2-0579), undertaken in accordance with the ACHMP. Initial collections were undertaken over six days in June 2015, followed by an additional day in June 2016.

The reported locations of all 263 previously identified surface artefact loci within the salvage area were reinspected and surface collections undertaken. A total of 1,650 artefacts were recovered during the surface collections. The combined assemblage was dominated by silcrete (73.8%), with a lower frequency of tuff (17%) and very low frequencies of other materials such as quartz, fine-grained siliceous, petrified wood, quartzite, volcanic, porcellanite and chalcedony. The combined assemblage was dominated by items relating to non-specific stone knapping, such as complete flakes (34.8%), "flake shatter" (20.2%), proximal flake portions (15.2%) and flaked pieces (16.8%). Other items were recorded including cores (6.3%), core fragments (0.9%), longitudinal flake portions (2.2%), backed artefacts (1.2%), redirecting flakes (0.6%), other retouched flakes (1%) and scrapers (0.4%), along with two hammerstones, a 'notched flake' and a ground-edge axe (AECOM 2017).

Test excavations within the Northern Exclusion Zone of site B10 were undertaken over 12 days between October and November 2015. A total of 115 test units, each measuring one square metre, were excavated at 20 metre intervals on a grid pattern. Only 48 artefacts were recovered during the excavation and no broad area salvage excavations were warranted. The artefacts were predominantly comprised of silcrete (78%) and mainly were complete flakes (58.3%), proximal flake portions (20.8%) and cores (8.3%) (AECOM 2017). Although the excavations identified Tertiary gravels within the northern portion of site B10, AECOM (2017) concluded that there was no evidence of on-site lithic procurement in that location (in contrast to elsewhere in the site as reported by White 1998) and that the assemblage represented background scatter characteristic of transitory movement and hunting/gathering.

The sites salvaged by AECOM (2017) included a number of sites recorded for the MPO, including the following MTP numbers: MTP 39-42, 461-483, 485-514, 516, 518-527, 529-576, 578-585, 702-704, 708-710, 956-974, 1262, 1400, 1403-1409, 1411-1413, 1415-1418, 1420, 1428, 1429, 1432, 1433, 1437-1440, 1442-1445, 1447-1452, 1455, 1456, 1458-1460, 1462, MTP-AS01-12 to MTP-AS03-12, MTP-IA1-12 and MTP-IA2-12 (refer to Appendix 7).



Figure 48: AECOM (2017: Figure 2) Bengalla Continuation of Mining salvage area and Aboriginal site locations.

3.2.3 Dartbrook/Kayuga

Several archaeological surveys have been conducted immediately north of the MPO SSD Area around Aberdeen, in relation to the Dartbrook and Kayuga mines.

Brayshaw (1981) recorded six Aboriginal heritage sites during a survey as part of an EIS for the Dartbrook Coal Mine, including five open artefact sites (four along Sandy Creek and its tributaries) and a possible scarred tree.

Dean-Jones (1990a, 1990b, 1990c) conducted archaeological surveys of portions of the Dartbrook Coal Mine and located approximately 19 open artefact sites, a possible scarred tree and possible grinding grooves.

Ruig (1996, 1997) conducted an archaeological survey at Kayuga and Browns Mountain, recording 41 Aboriginal sites, all artefact scatters or isolated finds. Ruig assessed these sites as being of low to very low archaeological significance.

Stuart (2000) undertook an investigation within the Dartbrook Coal Lease and located a total of five isolated artefacts and ten artefact scatter sites.

Archaeological surveys focusing on the Kayuga Coal Project have been completed by Hardy (2000, 2002a, 2002b) and Kuskie (2001, 2002a, 2002b, 2002c, 2002d). Hardy located a total of 12 sites in 2000, and during subsequent investigations of the Kayuga Access Slot (2002a, 2002b) an additional two artefact scatters and two isolated finds were recorded.

Kuskie (2001) surveyed a proposed transport road route, reinspecting two previously recorded sites and locating three additional unrecorded artefact scatter sites. Kuskie (2002a, 2002b, 2002c) conducted three investigations into proposed road routes at Kayuga, identifying a total of five artefact scatters. Kuskie (2002d) did not locate any Aboriginal heritage evidence during a survey of a proposed power line route at the Kayuga Coal Project. Kuskie (2003) surveyed a 75 hectare area of proposed tree planting for Dartbrook Coal Mine, immediately south-east of Aberdeen, recording an artefact scatter and an isolated artefact.

AECOM (2018) undertook an assessment for Modification 7 to the Dartbrook Mine, which had been in care and maintenance since 2006. A 3.2 hectare area was surveyed and no sites were located.

3.2.4 Mount Arthur Mining Complex

The Mount Arthur North mine, now referred to as the 'Mount Arthur Mining Complex', is located nearby to the south of the MPO SSD investigation area on the southern side of the Hunter River. It has been subject to extensive heritage investigations, which are of direct relevance to the interpretation of evidence within the MPO.

Dyall (1980)

Mount Arthur North (MAN) was initially investigated by Len Dyall in 1980, during a four day survey. Dyall (1980) identified 20 artefact scatters, two grinding groove sites and a low density background scatter of artefacts along sections of the main watercourses. Six of the artefact scatters were noted as containing in excess of 100 artefacts each. The grinding groove sites comprised a single groove on a boulder in a creek west of Mount Arthur, and two grooves on sandstone bedrock in the head-water stream of a Whites Creek tributary, adjacent to Mount Arthur.

Koettig and Hughes (1985)

Hughes, Koettig and Hiscock (1985: Volumes 1-3), undertook a more comprehensive investigation of the MAN lease area, focusing on two broad development impact zones.

Koettig and Hughes (1985) surveyed MAN in November 1983 and undertook salvage collections and excavations in late 1984. The surface survey was almost entirely focused on sections of Whites Creek, Fairford Creek, Quarry Creek and their major tributaries, along with several streams draining into the Hunter River floodplain.

Conditions of surface visibility were generally low at the time of Koettig and Hughes' (1985) survey, due to the cover of pasture grasses. Recording procedures involved (Koettig and Hughes 1985):

- At 43 sites, an analytical level of recording in which artefact details (or samples in larger sites) were noted;
- At 27 sites, a summary level of recording in which only 'subjective' estimates of approximate artefact densities and stone materials were noted;
- At 23 sites, a detailed summary level of recording in which all artefacts at a site, or a sample, were counted, but only limited characteristics noted;
- Recording of environmental and summary information at every site;
- Artefact occurrences were recorded as sites (refer below) or observed as 'background scatter' which was generally not recorded; and
- Eroded areas between sites were noted (dimensions and artefact count) to identify the amount of surface exposures along the watercourses and quantify the nature of 'background scatter'.

Koettig and Hughes (1985) defined *sites* as localities where artefacts occurred at a density higher than 'background scatter'. They noted that sites tended to correspond in area to the surface exposures in which they were identified. *Background scatter* was defined as the sparse scatter of artefacts that occurred beyond the limit of 'sites'. Typically background scatter equated to areas of low surface visibility, or erosion scours in which few artefacts were present. As a general rule, areas with less than 0.01 artefacts/m^2 were defined as background scatter.

A total of 93 artefact scatters were identified by Koettig and Hughes (1985). They noted that the distribution of sites along watercourses partly reflected conditions of surface visibility. Koettig and Hughes (1985:38) concluded from their results that artefact scatters occur along all creek systems, but fewer are located on the headwaters of minor creeks. Sites were considered to be more frequent along Fairford Creek than one of the main tributaries of Whites Creek. Koettig and Hughes (1985) concluded that while artefacts occur on slopes and ridge crests, they tend to decline in density away from the watercourses. Densities were also noted as being lesser along the lower section of Whites Creek. As noted elsewhere (Kuskie 2000), the nature of the density calculations does not permit assessments such as these to be made (although this does not necessarily imply that the conclusions are incorrect).

Silcrete and tuff (reported as 'indurated mudstone') were the most common stone materials, with porcellanite, quartz, petrified wood, chert, quartzite, volcanics and other materials also occurring. Along the upper section of Whites Creek, tuff was more frequent than silcrete in nine out of 14 sites. In contrast, along the lower section of Whites Creek, tuff was more frequent than silcrete in only six out of 18 sites. A similar pattern emerged along Fairford and other creeks. Variations in stone material frequencies were explained by Koettig and Hughes (1985) in terms of different stone material sources or cultural preferences. The latter also included technological suitability for the desired end product.

Most flaked artefacts recorded by Koettig and Hughes (1985) measured less than 50 millimetres in size. Cores tended to have multiple striking platforms and were made of a variety of stone materials. At the larger sites, Koettig and Hughes (1985) identified that more flakes were longer than wide, with many being notably elongated.

The frequency of artefacts with retouch/use-wear in the analytical samples varied between 1% and 50%, although 3-10% was the common range. It is noted that backed artefacts are included within this category (comprising 29% of its total), even though the backing retouch is related to the style/function of the artefact, not a result of modifications to the working margin. The percentage of retouched/utilised artefacts within each stone material class varied (chert 14%; tuff 7%; petrified wood 6%; silcrete 4%; porcellanite 4% and quartzite 1.5%). Koettig and Hughes (1985) concluded that silcrete (the most common stone material) was less favoured or used for making implements.

Backed artefacts were made of silcrete (37%), tuff (29%), chert (11%), porcellanite (10%), petrified wood (7%) and quartz (6%). The percentage of backed artefacts within each stone material class varied (chert 5%; petrified wood 5%; tuff 2%; porcellanite 2%; silcrete 1% and quartz 1%). Koettig and Hughes (1985) concluded that this result indicates that petrified wood and chert may have been favoured materials for making backed implements.

Several ground-edge axes were located, at sites MAN 10, 16 and 84, including one with grooves useful for attaching a wooden handle.

A total of 22 'knapping floors' (or reduction areas), concentrations of debris resulting from the manufacture of artefacts, were identified at 19 sites, including 11 along the upper section of Whites Creek. 'Knapping floors' were mostly of silcrete (10 out of 22), but also porcellanite, tuff, petrified wood, chert, quartz and volcanics. Artefact density varied between 8 and 120 artefacts/m^2. Notably, many 'knapping floors' were either isolated or associated with low density background scatter.

Based on their survey results, Koettig and Hughes (1985) proposed that artefact scatters can be subdivided into two sub-types at MAN:

- Isolated 'knapping floors', with few other artefacts apart from low density background scatter; and
- Concentrations of artefacts, which often extend over large areas and do not contain obvious or distinct 'knapping floors'.

Koettig and Hughes (1985) query whether this apparent distinction is due to different technological processes or repeated occupation. However, another possibility is that distinct 'knapping floors' were once present within broader sites, but have subsequently been obscured by the lateral movement of artefacts.

Hearths were recorded at seven sites (MAN 9, 10, 32, 33, 44, 67 and 68) and at two locations of background scatter (MAN 16 and 17).

Koettig and Hughes (1985) did not present a comprehensive assessment of the significance of the recorded sites. However, they did note that the nature and distribution of the sites appeared common to others within the region (implying low representative value). Koettig and Hughes (1985) also noted that despite moderate or high levels of ground disturbance, many sites still had considerable scientific research potential. The primary recommendation of Koettig and Hughes (1985) was that none of the Aboriginal sites were of such scientific importance to warrant preservation, but salvage of sites should be undertaken prior to construction.

Salvage excavations and/or surface collections were undertaken at 15 sites by Koettig and Hughes (1985: Volume 3). Larger excavations were undertaken at sites MAN 4 (36 m^2), MAN 23 (30.5 m^2) and MAN 84 (5.5 m^2) and smaller excavations/collections at sites MAN 1, 3, 9, 10, 20, 24, 25, 26, 27, 31, 33 and 61.

The primary aim of the salvage excavations was to obtain a well-documented collection of archaeological evidence representative of the study area and available for future research. The sites were selected on the basis of their contents and landscape context. The primary aim of the surface collections (particularly of 'knapping floors') was to include examples of different stone materials, in different parts of the study area, both with and without associated backed implements, and both isolated 'knapping floors' and those which are part of a broader site. In addition, it was intended to collect a sample of backed blades, excavate potential hearths and collect stone axes and axe blanks.

At the excavated sites, the A horizon soil was typically less than 0.15 metres deep. Minimal excavation was undertaken of the B horizon soil. Most excavation involved wet-sieving deposit through 2.5 millimetre mesh. Small samples of soil and hearth deposits were retained without sieving.

Analysis of the artefacts was undertaken by Dr Peter Hiscock (Hiscock and Koettig 1985: Volume 3). Several 'knapping floors' were assigned to particular chronological phases on the basis of technological attributes (Hiscock 1984). Hiscock and Koettig (1985) concluded that most evidence did not correspond with identifiable chronological phases.

The salvage at sites MAN 1, 25, 31 and 33 only consisted of surface collections. The excavated sites are described in brief detail below.

At site MAN 3, a porcellanite 'knapping floor' adjacent to Whites Creek, an area of 1.5 x 0.5 metres was excavated to 0.06 metres depth. A total of 92 pieces of porcellanite were recovered, although it is unclear if this also includes the surface collection.

At site MAN 4, a total of 36 m^2 was excavated in transects forming an 'L' shape, along with several small discrete units.

At site MAN 9, a porcellanite scatter on Whites Creek, an area of 2 x 1.5 metres was excavated to a depth of 0.1 metres. Porcellanite comprised most of the recovered artefacts from a surface collection. Hiscock and Koettig (1985: Volume 3:52) state that silcrete and porcellanite exhibit higher frequencies of breakage, indicating that they were subjected to thermal alteration. The excavated assemblage included 694 artefacts, dominated by petrified wood (64%).

Artefacts from site MAN 10, also on Whites Creek, were collected from four areas and several small (<0.5 m^2) excavations were undertaken.

At site MAN 20, two 'knapping floors' were collected and minor excavations undertaken at each (<1 m^2).

A large 'T' shaped excavation of 30.5 m^2 was undertaken at site MAN 23, adjacent to Whites Creek. Features retrieved include two knapping floors and an *in situ* hearth, comprising many small metasedimentary rocks packed into a circular depression. The hearth measured 0.5 metres in diameter. While baked clay was present, there was no evidence of charcoal.

At site MAN 24, a concentration of petrified wood artefacts was collected and two excavations were undertaken, each measuring 1 x 0.5 metres. The excavations also revealed mostly petrified wood artefacts (459 in total).

A small excavation of 1 x 1.3 metres was undertaken at site MAN 25, along with the surface collection of a concentration of silcrete flakes.

A hearth at site MAN 26 was excavated. It was similar to the hearth excavated at site MAN 23.

Two small surface collections and a 0.5 x 0.6 metre excavation were undertaken at site MAN 27. Predominantly silcrete artefacts were recovered.

At site MAN 61, on Fairford Creek, a total of 4 m^2 was excavated in two locations. Two stone features were identified. One measured about 0.5 metres in diameter and below the stone was a thin layer of ash and charcoal. A second feature comprised metasedimentary stones dispersed over an area of 1.7 x 1 metres.

A total of 5.5 m^2 was excavated at site MAN 84, in two locations adjacent to 'Creek E'.

Several conclusions were presented by Hiscock and Koettig (1985), including:

- Most samples contained a mix of stone materials;
- Silcrete tended to be broken much more than tuff (explained in terms of the relative hardness, elasticity and rigidity of the stones, or application of different forces during reduction, or by the heat treatment of silcrete);
- The majority of evidence was concentrated in the lower section of the A horizon soil; and
- The relative ages of twelve 'knapping floors' were estimated by comparison of the presence and frequency of certain technological attributes with documented and dated assemblages from rock shelter sites.

Of all the stone artefact reports in the Hunter Valley, this work by Hiscock and Koettig (1985) (and subsequent articles), continues to be one of the most coherent and influential works and many reports have compared data from this survey and salvage, albeit with varying degrees of success.

Kuskie (2000)

Kuskie (2000) undertook a comprehensive survey of the MAN mining lease application area. Coal Operations Australia Limited (a subsidiary of BHP Billiton) was proposing to develop the Mount Arthur North Coal Mine, within a total mining lease application area of approximately 35.4 square kilometres.

The MAN terrain consisted of a series of ridges descending north and east from Mount Arthur to the Hunter River and Whites Creek, interspersed by numerous drainage lines and interfluvial spurs. A broad, low hill rose in the north-central portion of the study area and side-slopes of nearby undulating hills intruded into the north-eastern portion. Two major watercourses traversed the area, Whites Creek and Fairford Creek, with associated valley flats. Hence, the environmental context contrasts somewhat with the undulating terrain of the MPO SSD Area. The underlying geology consisted of Late Permian Wittingham Coal Measures. Native vegetation had been largely removed from the locality and replaced with pasture improved grasses. The Hunter River is located within one kilometre of the area.

A field survey was undertaken by South East Archaeology and the Wonnarua Tribal Council over a period of five weeks in December 1998 and January and February 1999, along with two days in September 1999, involving a total of 216 person-days. The total field survey study area included the proposed mining lease application area and an additional 1.55 km^2 of land to the east. A number of small areas in the adjacent Bayswater #2 and #3 Collieries were included. The field survey involved direct coverage of 242 hectares (6.6%) of the initial 37 km^2 study area, resulting in an effective survey sample (accounting for archaeological visibility) of 0.68% (Kuskie 2000).

The study area was subdivided into 520 survey areas, all of which were sampled. All different environmental contexts were sampled, including the range of landform elements, classes of slope, archaeological terrain units, geological formations and soil units present. Surface visibility was low on average across the surveyed terrain, and very low in the remainder of the property, which was not subject to direct inspection. Vegetation was noted as being the primary detection-limiting factor (Kuskie 2000).

The initial survey resulted in the identification of 294 Aboriginal heritage sites (utilising a 'broad-area' definition based on landform units and classes of slope), all artefact occurrences, within 1,177 spatially separate loci. A further 11 sites were identified in additional survey areas. The identified sites occupied about 82% of the MAN study area. The only non-artefact site type identified was a grinding groove site in the corner of the Bayswater #3 lease.

Artefacts were widely distributed across the study area, within all landform elements, classes of slope, archaeological terrain units, geological formations and soil units. Artefacts were identified at a mean density of 0.069 artefacts per square metre of effective survey coverage (accounting for visibility), across the entire study area sample. A total of about 17,330 stone artefacts were identified during the initial investigation, of which 15,970 artefacts were recorded in detail. A further 12 artefacts were recorded during investigation of the additional survey areas.

Artefacts were distributed widely, in a virtual continuum, but with variations in density in relation to different environmental factors. Several patterns in the distribution of evidence were identified. Artefacts occurred at substantially higher densities within:

- The valley flat landform element;
- Level/very gently inclined slopes;
- The level/very gentle valley flat archaeological terrain unit (and to a lesser extent, level/very gentle drainage depressions and gentle valley flats); and
- Within 50 metres of a watercourse, particularly if it is a higher order stream.

The combined site assemblage was dominated by two stone materials, silcrete (51%) and indurated rhyolitic tuff (34.6%). Thirteen other stone materials occurred in much lower frequencies. Sources of silcrete were identified within the study area, mostly in the western portion bordering the Hunter River floodplain. Sources of tuff occurred widely in the study area, in association with the Jerry's Plains Subgroup geological formation. Alluvial gravel, colluvial gravel and other isolated occurrences of silcrete, tuff and to a lesser extent other materials such as quartzite and quartz, were noted within the study area (Kuskie 2000).

A total of 37 different types of artefacts were recorded within the MAN study area. The assemblages were dominated by flakes and flake portions (53.4% of the combined total) and flaked pieces (15.1%), representing the dominance of non-specific stone flaking activities. Evidence of microblade manufacturing was also common, comprising 16% of the total assemblage. A very low frequency of utilised and/or retouched flaked artefacts was identified (1.65% of the assemblage). Tuff was preferentially selected over silcrete to manufacture these tools. Very few backed artefacts (such as bondi points) were identified. Very low frequencies of tools indicative of activities such as the discard of other implements (eg. flaked or ground-edge axes, eloueras) or the discard/accidental loss of backed artefacts were located. The flaked artefacts tended to be small in size (often less than 50 millimetres in maximum dimension) (Kuskie 2000).

This evidence was interpreted as suggesting that the major watercourses (Whites Creek, Fairford Creek and their main tributaries) were the focus of Aboriginal occupation in the study area. Level to very gently inclined ground was preferred for camping. Camp sites tended to be focused within 50 metres of a watercourse, particularly third or fourth order streams. However, the possible importance of vantage points on elevated ground was noted. The results indicated that the entire landscape was utilised to varying extents, with hunting, gathering and other activities occurring away from, as well as within, camp sites (Kuskie 2000).

The assemblages indicated that tool production was mostly casual and opportunistic, meeting the requirements for tools on an 'as needed' basis. More organised production of artefacts probably occurred, in relation to the manufacturing of backed artefacts. The presence of larger flakes and cores, along with the distribution of stone sources, indicated that procurement of stone from sources within the study area occurred, in addition to surrounding sources (eg. alluvial gravels). It also tended to indicate that rationing of stone material was not a priority of the knappers. Considering the abundance and relative ease of obtaining materials, this was not surprising. Circumstantial evidence existed suggesting that deliberate thermal alteration of silcrete may have taken place within the study area (Kuskie 2000).

It is probable that much of the evidence had been affected to some extent by human or natural post-depositional processes. However, it was possible that many sites or potential deposits were of sufficient integrity to be of research value, particularly where the impacts of post-depositional processes could be identified and controlled for. Importantly to note, it was those deposits still subject to vegetation cover that were likely to be of higher integrity than most of the recorded site loci, in which visibility had been created by impacts that were also detrimental to site integrity (Kuskie 2000).

From the existing circumstantial evidence, Kuskie (2000) concluded that it would appear that most of the cultural evidence within the MAN study area related to the past 5,000 years of human occupation.

Extrapolation of the survey results to the remainder of the MAN study area (which was not directly inspected or was inspected but conditions of ground visibility were very low), tentatively indicated that the total quantity of artefacts present could be in the order of 3 million to 1.2 billion items. Despite the broad margins of error inherent in these estimates, a substantial body of Aboriginal heritage evidence potentially existed within the MAN study area (the *potential resource*), only a fraction of which had been identified during the surface investigation (Kuskie 2000).

The results of the survey were used to reassess and refine the predictive model of site location for the study area. Stone artefacts remained as the dominant identified and predicted form of cultural evidence. It was estimated that there was a high probability for evidence to exist in relation to the extraction and procurement of stone (quarry sites). Other site types such as scarred trees, stone arrangements, grinding grooves and burials were thought to have a generally low to very low potential to occur. There remained some, albeit low, potential for evidence relating to the contact period (Kuskie 2000).

A number of management strategies were discussed and a series of recommendations presented. In order to mitigate and minimise the substantial and irreversible impacts of the proposal to the identified and predicted Aboriginal heritage resources, the primary recommendation was that a representative sample of identified and potential Aboriginal heritage resources within the proposed MAN mining lease should be subject to a combination of salvage, conservation and unmitigated impact (Kuskie 2000).

Kuskie and Clarke (2004)

South East Archaeology was commissioned by a subsidiary company of BHP Billiton, Bayswater Colliery Company, to undertake archaeological salvage excavations and collections of artefacts from a number of Aboriginal sites within the MAN mining lease area. Section 90 Consent and Permit to Salvage (#SZ347) was issued by the National Parks and Wildlife Service (NPWS) to permit development of the mine and the cultural salvage of evidence by the Upper Hunter Wonnarua Council. A separate Excavation Permit (#SZ346) was issued by the NPWS to South East Archaeology to permit the program of scientific salvage (Kuskie and Clarke 2004: Volumes 1-3).

The local Aboriginal community was represented by the Upper Hunter Wonnarua Council, whose representatives were involved in all aspects of the salvage project, from its planning, through the 26 week field investigation, to the analysis and reporting. The Aboriginal community provided almost half of the entire workforce during the excavation.

The salvage excavation program comprised an initial phase of mechanical test scrapes, a second phase of broad area hand excavations, a third phase of mechanical surface scrapes, and a fourth phase of localised hand excavations within the surface scrapes. In addition, following the location of a burial along Whites Creek (refer to Donlon and Kuskie 2003), additional mechanical surface scrapes were conducted along an extensive portion of the valley flat.

In the first phase of the salvage program earthmoving machinery was used to carefully remove the grass cover and upper centimetres of soil, to identify concentrations of sub-surface deposits, such as artefacts and other features (eg. hearths). Several dense artefact concentrations and features were located and assisted in the selection of areas for Phase II (broad area hand excavation) and Phase IV (localised hand excavations in discrete areas).

Approximately 15.5 hectares of the study area was investigated in this manner with artefacts collected in 5 x 5 metre units. An additional 23 hectares was scraped and collected for the Whites Creek Extra Scrape around the Aboriginal burial identified during the initial scrapes adjacent to Whites Creek. The main objectives of identifying the basic pattern of artefact distribution, characterising the nature and variety of archaeological evidence and selecting locations for broad area excavation were achieved (Kuskie and Clarke 2004).

The second phase comprised six open area hand excavations totalling 497.75 m^2 in area. These areas typically measured 2 x 40 metres and were excavated in 0.5 x 0.5 metre square units, with several small extensions of the trenches around features that emerged during the course of investigation. Excavation by hand using trowel and spade of the broad areas in the second phase permitted almost all of the relevant research questions to be addressed.

Following the controlled broad area hand excavations, the third phase of salvage involved more extensive mechanical surface scrapes.

The fourth and final phase of the salvage involved a series of small, localised hand excavations focusing on features and activity events revealed by the scrapes conducted in Phases I and III. A total of 38 Hand Excavations totalling 282 m^2 in area were excavated during this phase.

An on-site lithic work-station was established, where every lithic item retrieved was examined under a low-magnification binocular microscope and identified and recorded in computer databases. This procedure offered substantial benefits in terms of the accurate identification of stone material categories, artefact types and attributes, and the presence and nature of use-wear and residues (Kuskie and Clarke 2004).

In total, an area of 779.75 m^2 was carefully excavated by hand. Surface scrapes with a combined area of approximately 38 hectares were undertaken. The excavations resulted in a total of approximately 138.7 cubic metres of soil being excavated by hand and wet-sieved.

Through the hand excavations and surface scrapes, a total of 32,866 artefacts were retrieved and recorded. The mean density of artefacts per unit of volume within the main hand excavations equated to 106.8 artefacts/m^3 and ranged from an average of 271.7/m^3 at the Whites Creek Upper Section to just 11.0/m^3 at the Ridge to Hunter Upper Section. The density of artefacts varied widely within individual excavation unit spits (ranging from nil to 5,400 artefacts/m^3). The mean artefact density in the localised Hand Excavations within the scrapes ranged up to a maximum average of 2,713/m^3 for an excavation area (maximum count of 838 or density of 9,469/m^3 in a single square metre unit) (Kuskie and Clarke 2004).

Site integrity was investigated through examination of land-use history in the locality, natural processes, horizontal and vertical distributions of stone artefacts, inferred associations between individual stone artefacts and other variables. This analysis demonstrated that considerable vertical mixing of the excavated deposit had occurred (probably largely as a result of bioturbation) but that limited post-depositional lateral movement of evidence occurred.

A total of 43 types of stone artefacts (in four technical classes) were identified. Six basic categories of activities were identified through the artefact evidence: non-specific stone flaking, bipolar flaking, microblade production, backing retouch of microliths, loss or intentional discard of microliths and loss or intentional discard of non-microlith tools. However, many of the artefact categories represented debris from stone knapping (non-specific knapping items accounted for 97.46% of the combined assemblage), with production of backed artefacts being the most common identifiable specific activity.

Sixteen different stone materials were identified in the combined assemblage. Silcrete was the most common (59.37%), with modest frequencies of tuff (19.42%) and porcellanite (10.03%) and much lower frequencies of quartz (4.27%), petrified wood (3.51%), volcanic 1 (2.01%), quartzite, volcanic 2, chert, chalcedony, basalt, volcanic 3, sandstone, volcanic glass, glass and ochre (all <1%). It was inferred that much of this stone was procured from local alluvial, colluvial and terrestrial outcrop sources during the course of the normal daily or seasonal round. Procurement of tuff may have been a selective process, with cobbles tested for their quality, prior to selection of the better quality materials and transportation elsewhere for use. The use of quartz appears to have been very different to the use of other materials such as silcrete and tuff. Quartz appears to have been used infrequently and in an opportunistic manner, with flakes knapped on an 'as needed' basis, possibly often using the bipolar method (Kuskie and Clarke 2004).

The overall size characteristic of the combined artefact assemblage was that most items (71.4%) were small, measuring less than 20 millimetres in maximum dimension (with 27.8% <10 mm in size). The primary explanations for the predominantly small nature of the assemblage was the focus on knapping of backed artefacts and the total sieve retrieval methodology, as well as the nature of fracture of materials such as heated silcrete, porcellanite and petrified wood (Kuskie and Clarke 2004).

Heat had affected a proportion (9%) of the assemblage in a post-depositional context, including a range of different stone materials. It was inferred that these artefacts were exposed to heat either when on the surface (by bush fires or camp fires) or below the surface (eg. by burning tree roots/boles or superimposed campfires). However, deliberate thermal alteration was inferred for a proportion of silcrete items. No specific 'heat treatment pits' were identified, however it is highly possible that this practice occurred within the study area. In Aboriginal society, colours had important symbolic meaning and part of the reason for heat treatment may have been to obtain desired colours as well as to improve the flaking properties of the stone. This may have been especially important for armatures of fighting and hunting spears (Kuskie and Kamminga 2000).

It was inferred from the results, particularly comparison of the Whites Creek with the Ridge to Hunter sites, that the proximity to the Hunter River was less of a factor influencing assemblage composition than the proximity of Whites Creek. The Whites Creek surface scrapes and excavations contained much higher frequencies of background discard, higher frequencies of focused activity areas, a greater range and quantity of activities, and where activity areas were present they represented substantially more intense activity and involved a greater range of stone materials, than the surface scrapes and excavations along the Ridge from Mt Arthur to the Hunter River. Occupation of Whites Creek may predominantly have involved small groups of people during the course of the daily/seasonal hunting round, and short-term temporary encampments by small parties of both men and women (possibly extended families). In contrast, the evidence along the Ridge from Mt Arthur to the Hunter River was indicative of transitory movement (Kuskie and Clarke 2004).

Eleven samples of charcoal retrieved from various excavations were submitted for radiometric dating. In general terms, based on the spread of the 95% confidence intervals, occupation at MAN can potentially be subdivided into at least four or five broad temporal episodes or phases, over the past 1,400 years. The earliest dated occupation was a stone-lined hearth at WCMSS2C HE11 which ranged up to a maximum age of 1,350 calibrated (cal) BP (600 AD). Occupation was dated right up until the period either immediately prior to non-indigenous occupation of Australia or the same time as early non-indigenous settlement of Sydney and exploration of the lower Hunter Valley. Ethnohistorical evidence and a glass artefact indicate that most recent occupation of the study area was contemporaneous with early non-indigenous settlement.

The radiocarbon dating, geomorphological and lithic evidence was strongly indicative that much, if not the entire suite of cultural evidence excavated at MAN, was mid to late Holocene in age (ie. less than 5,000 years BP). Evidence for older occupation was not identified and was considered to be very unlikely to be present (Kuskie and Clarke 2004).

The evidence from the MAN sites was interpreted in relation to the traditional lifestyle of the local Aboriginal people and hypothesised occupation types. A model of occupation for the locality consistent with historical, ethnographical and archaeological evidence was proposed (Kuskie and Clarke 2004).

Aspects of the methodology used in the salvage project were reassessed to determine its suitability and adequacy in relation to the stated objectives. The methods and techniques used were found to be largely successful in terms of achieving these objectives. A number of salient points were highlighted in relation to their potential application to future archaeological studies in the Hunter Valley, including:

- A significant advantage of the surface scrape methodology is its ability to rapidly expose comparatively large surface areas and identify *in situ* features and spatial distribution on a broad scale. In circumstances where the evidence (ie. the potential resource) will otherwise be impacted by development, this methodology is invaluable in identifying and permitting salvage of significant features that would otherwise not be investigated;
- A program of localised hand excavation to salvage activity areas identified within surface scrapes is an essential component of the surface scrape methodology and heritage salvage process;
- Large-scale excavation of sites to be impacted by development is essential to provide more meaningful data and to improve our understanding of Aboriginal occupation (Dean-Jones and Mitchell 1993, Holdaway 1993, Kuskie and Kamminga 2000). Consistent sizes and methods of investigation are important to enable inter and intra-site comparisons;
- The excavation of larger units (eg. 1 x 1 metre in area) can be beneficial in terms of reducing processing, data entry and analysis time, with minimal loss of information pertaining to the horizontal spatial distribution of evidence. Where features such as hearths are identified, excavation can proceed in smaller units;
- Once a sample of deposit excavated in separate spits has led to the conclusion that low vertical integrity exists, more rapid excavation by employing a single spit could be justified;
- The process of total sieve retrieval has significant benefits over traditional methods of sieving and artefact recovery, which justify its exclusive use in archaeological excavation projects;
- The use of a small sieve mesh (eg. 2.5 millimetres) facilitates the retrieval of small artefacts, including important diagnostic items (eg. backing flakes and backed artefact tips), also justifying its exclusive use in archaeological excavations;
- Close examination of all lithic items (eg. under low magnification) offers substantial benefits in terms of the accurate identification of stone material categories, artefact types and attributes, and the presence and nature of use-wear and residues. Use of this procedure is highly recommended for similar archaeological projects; and
- The use of artefact associations to identify activity areas and their spatial patterning within the broader landscape can be successfully employed (Kuskie and Clarke 2004).

Donlon and Kuskie (2003)

As part of the MAN salvage program, surface scrapes were undertaken within an excavation area referred to as 'Whites Creek Mid-Section Scrape 2' (WCMSS2). Initial removal of the grass and upper several centimetres of soil with a dozer took place in four areas (A-D). In area 'D' on the northern side of Whites Creek, a second pass of the dozer that removed another five centimetres or so of soil resulted in the exposure of human skeletal remains. The dozer blade removed the upper part of a cranium, while the remainder of the skeletal material was presumed to lie *in situ* in a burial pit, several metres inside the boundary of the scrape area.

After the discovery on 22 August 2001, work immediately ceased in this locality and the appropriate stakeholders were contacted (Police, NPWS and Aboriginal community). Partial excavation of the deposit around the cranium by an NPWS archaeologist confirmed that the remains were Aboriginal and probably constituted a traditional burial.

BHP Billiton implemented a program of consultation with the Aboriginal community to inform the community of the find and to seek their input into the management of the remains. It was the agreement of the Aboriginal Elders and stakeholders that the skeletal remains be partially excavated and subject to scientific analysis in order to address several research questions of interest to the Aboriginal community, but left *in situ* and subsequently re-covered with soil. The Elders consented to the remains being covered by a protective structure and mine overburden subsequently emplaced above it during the course of mining operations.

South East Archaeology (Donlon and Kuskie 2003) was engaged by BHP Billiton to undertake the study in conjunction with the Aboriginal community. A Section 90 Consent Permit (#SZ353) was obtained from the NPWS on 17 October 2001.

The burial was partially excavated by a physical anthropologist, Dr Denise Donlon, and members of the Aboriginal community and South East Archaeology in October 2001. Nine units each measuring 0.5 by 0.5 metres in area were excavated. The remains of a single skeleton, interred within a burial pit, were exposed.

The burial was of an Aboriginal male, probably aged between 30 and 35 years at the time of his death. The man was probably buried just prior to European settlement in the locality, in the 1700s or very early 1800s. He stood about 5'6" (1.67 metres) in height. All cranial, post-cranial and dental measurements were within the ranges recorded for Australian Aboriginals. Tooth attrition was moderate to severe and there was no sign of dental caries, which is typical of a person eating a traditional Aboriginal diet containing rare meat and fibrous plants, both of which were probably associated with abrasive grit. His diet was dominated in relatively equal proportions by C_3 based terrestrial foods and marine and freshwater foods. There were few degenerative changes in the skeleton. Dental enamel hypoplasia was only present on one tooth, indicating that some stress occurred around one to two years of age. The low incidence of stress indicators suggests that this man may have had a good diet and suffered little from infectious diseases as a child. A tooth had been removed as part of an initiation ceremony after early puberty (Donlon and Kuskie 2003).

A small bony growth was located in the external ear canal. It may be related to repeated immersion in water as a result of swimming and diving. The man had substantial strength in his upper limbs and his fingers have well-developed attachments for the flexor muscles. This man was clearly using his fingers and thumbs in some repetitive activity - possibly in the manufacture of stone artefacts. The greater development of the right upper limb leaves little doubt this man was right handed (Donlon and Kuskie 2003).

The remains exhibited a number of healed fractures, including on the left hand and right leg. The right femur displayed a very severe, but healed fracture about mid-shaft, which would have left the man's right leg approximately five centimetres shorter than the left leg. This man would have walked with a severe limp and would probably have required the aid of a stick. It is unlikely he could have walked long distances. The fracture was at least six months old as the bone appeared to be fully healed. For this fracture to have healed so well, this man must have had both good general health and good nutrition and must have been cared for during the healing process, as he would not have been able to move without a significant degree of pain. This man may have broken his femur and injured his hand falling from a cliff, but it is also possible that he may have been intentionally struck by a large weapon, such as a heavy piece of wood (Donlon and Kuskie 2003).

Grave goods, comprising 23 stone artefacts, ulnae and a radius of small marsupials (eg. possum) and yellow ochre, were found in a cluster behind the lumbar vertebrae of the skeleton. The bones were possibly used to secure a small bag or pouch in which the artefacts and ochre had been placed at the time of burial. Ochre is often found with burials and is assumed to have a ritual function. Ochre occurs naturally in the locality and it is highly probable that the sample of ochre present in the burial was procured from a local source. The stone artefacts were all retouched and/or utilised flakes made of volcanic tuff (Donlon and Kuskie 2003).

Several significant differences are noted between the grave good artefacts and those from the remainder of the MAN study area. Firstly, the artefacts were all made from the stone material volcanic tuff, whereas a range of different materials were present in the other assemblages. It is highly probable that this stone was procured from a local source, either terrestrial outcrops within the study area or from nearby alluvial gravel sources. Secondly, the artefacts were larger than other retouched tuff artefacts from the rest of the MAN assemblages. One of the reasons for this difference was the absence of small, backed artefacts from the grave good assemblage, which is also consistent with the recent radiocarbon dates obtained for the burial. Thirdly, the grave good artefacts were less extensively reduced than those from elsewhere at MAN. In fact, most or all of these artefacts were likely to have derived from the knapping of one or two cores. Finally, every one of the burial artefacts exhibited retouch and/or use-wear. Of the 23 artefacts, 20 displayed evidence of use (87%), 18 exhibited extensive retouch (78%), and residue (possibly from gum) was visible on three artefacts. This contrasts greatly to most Australian assemblages where the extent of retouch and/or use-wear generally ranges between 1% and 5% (Donlon and Kuskie 2003).

It is very possible that the artefact assemblage did not represent the man's typical tool-kit, but was created specifically for his burial by others in a spiritual, symbolic or ceremonial context. An alternative explanation is that due to the severe injury to his leg and restrictions on his mobility, this man's tool-kit may have been somewhat different to other male members of his community. This man may not have participated in hunting activities and may have spent a greater proportion of his working time engaged in tool manufacturing/maintenance activities or tasks such as food processing. However, in any case, it is highly probable that the grave goods (and by association, the buried individual) were contemporaneous and part of the same cultural assemblage as the rest of the MAN evidence (Donlon and Kuskie 2003).

While this individual was buried adjacent to an inland creek, it is very likely that he had access to marine food located some distance away, the closest sources being 95 kilometres distant as the crow flies. However, it is not possible to infer whether the man spent most of his time in the coastal region and moved inland in the years preceding his death, or whether he regular moved between the Upper Hunter Valley and the coastal zone (Donlon and Kuskie 2003).

Although there have been few skeletal remains found in the Central Lowlands of the Hunter Valley, and little scientific analysis has been undertaken of these, information about burial practices in the region is available from Reverend Threlkeld (in Gunson 1974) and Meehan (1971). The Mount Arthur North burial had many features consistent with the burial practices described by Threlkeld and Meehan. The grave contained charcoal rich soil, as if a fire had been lit in it, the body was partially flexed, grave goods were placed beside the body and the face was oriented to the north-west. The orientation of the body differed somewhat from Threlkeld's description. In the MAN burial the body was lying on the left rather than the right side (Donlon and Kuskie 2003).

Bayswater #3

The Bayswater #3 Mine now forms part of the Mount Arthur Mining Complex. Bayswater #3 is situated immediately to the south of Mount Arthur North, approaching to within approximately four kilometres south of the MPO SSD Area.

Investigations at the Bayswater #3 Mine have been undertaken by Appleton (1994), Davidson (*et al* 1993), ERM Resource Planning (1994), Fife (1995), MacDonald (1997) and others.

An initial survey of the Bayswater #3 Lease was undertaken over 12 days in 1993 (Davidson *et al* 1993). The 4,700 hectare area consisted of undulating terrain, low hills, gullies and watercourses. A very small sample of 0.024% of the study area was surveyed. Almost half of the coverage was along watercourses. A total of 84 artefact occurrences were identified. Sites ranged in size from 1 to 62,500 m^2. Artefact densities at sites ranged from 0.0007 to 0.72 artefacts per m^2 (although it is uncertain if this refers to the total site area or effective site area). Minimal analysis was undertaken of the recorded sites. Of the larger assemblages, flake portions (40%) and flakes (30%) were the dominant types, with flaked pieces (20%), retouched flakes (7%) and cores (3%) also present. Volcanic tuff (inaccurately termed 'indurated mudstone') was the dominant stone material (50-70% of larger sites), with silcrete also common (20-30% of larger sites). Four scarred trees were identified, although the nature of their origin (Aboriginal or natural) appears uncertain. Two grinding groove sites were identified.

ERM Resource Planning (1994) undertook investigations of a proposed haul road and bulk sample program in the Bayswater #3 Lease. A total of 31 sites were identified within the 123 hectare study area. Gross survey coverage equated to 4.7% of the study area. Curran (ERM Resource Planning 1994) claims that artefact densities were apparently higher along the creek/gully and creek flat units, however the existence of higher surface visibility in these localities was also noted.

Site Bobagul Hills 2 (BH2), recorded in the Bayswater #3 Lease by Davidson *et al* (1993), was salvaged by Appleton (1994). A total of 19 excavation units of varying size were excavated, for a total of 21.5 m^2. A total of 763 artefacts were retrieved from the excavation, along with 348 artefacts collected from the surface. Of these, 54% were made from silcrete and 32% from tuff. The assemblage was dominated by flakes (59%) and flaked pieces (34%).

A second salvage project was undertaken by Fife (1995) at the 'LFG' complex of sites. These extended over an area of three hectares, about 1.5 kilometres south of Mt Arthur. A total of 21 m^2 was excavated in eight separate locations to reveal 278 artefacts. A further 618 artefacts were collected from the surface. Tuff was the dominant stone material from the surface collection, but silcrete was dominant in the sub-surface sample.

Wilson (1995a, 1995b) conducted archaeological surveys and salvage excavations in two main areas – MacDonald Pit and Dump and Saddlers Pit, on the southern side of Mount Arthur. The methodology involved backhoe excavations (totalling 66 m^2), grader scrapes (totalling 2,152 m^2) as a site detection measure, with subsequent hand excavations of 21.1 m^2 and 51.4 m^2 within areas identified in the scrapes. The backhoe pit locations were chosen randomly within the landscape units, with 66 isolated 1 x 1 m^2 units excavated for a total of 20 artefacts. Seven areas were scraped by graders in five centimetre spits for a total of 40 artefacts. A total of 1,787 further artefacts were uncovered during the hand excavations, with an additional 7,109 artefacts obtained through surface collections.

Further investigations were undertaken into the Bayswater #3 sites, including a survey, collection and test excavations reported by MacDonald (1997). At site Edderton Road 2, MacDonald (1997) reported that flake portions (56% of the assemblage) and complete flakes (19%) were the dominant artefact types. Implements exhibiting retouch and/or use-wear comprised 9% of the assemblage, but these features were only identified macroscopically. Silcrete was the dominant stone material (50%) but tuff was more frequently used for making tools (53% of tools).

Sub-surface testing was undertaken in a locality known as the MacDonald Road South area. A systematic random sampling strategy was used. A total of 121 test units, each measuring 0.25 x 0.25 metres in area, were excavated by shovel. Only nine of the units contained artefacts, mostly only one or two. A single unit contained 17 artefacts. The artefacts were identified on flats and very gently inclined lower, middle and upper slopes. No artefacts were identified within 22 test units adjacent to watercourses (including areas where surface artefacts were present). No explanations were forwarded by MacDonald (1997), although the small nature of the sample is probably a factor. The depth of the A horizon was found to vary between 0 and 0.5 metres. Very low conditions of surface visibility were noted by MacDonald (1997).

Further testing at MacDonald Road South involved the excavation by backhoe of 120 test units, each measuring 1 x 1 metres. Several squares were randomly selected across the entire locality, while others were randomly selected within defined 100 x 100 metre areas. A mechanical sieve was used, but not found to be of any assistance in processing the clayey soils. A total of 298 artefacts were retrieved, with the maximum number of artefacts retrieved from a unit being 60. Artefacts tended to be more common at 0.05-0.1 metres below the surface, which MacDonald (1997) suggested is due to the effects of ploughing.

MacDonald (1997) also reported on the testing of a large artefact scatter located adjacent to MacDonald Creek. A total of 155 test units each measuring 0.25 x 0.25 metres in area were excavated, resulting in the retrieval of only 70 artefacts. The distribution of artefacts was generally comparable to the distribution of surface artefacts at this site.

A larger hand excavation was undertaken at site 'MRS Ex 1', situated on a low ridge crest. This involved an area of 15 m^2, excavated in 0.25 x 0.25 metre units. A total of 840 artefacts were retrieved. A second hand excavation at site LGH06 was undertaken, a site located adjacent to a spring fed waterhole. Grinding grooves were also present. A five m^2 trench was excavated and 283 artefacts recovered. In contrast to many other sites, quartz was identified as the dominant stone material. A trench measuring 5 m^2 was excavated in the MacDonald Road South 3 locality, resulting in the retrieval of 587 artefacts.

During a surface survey, constrained by low conditions of visibility, MacDonald (1997) identified a fragment of a porcelain jar at site Edderton Catena 2. MacDonald (1997:92) reported that this item was flaked by Aboriginal people and retouched, and had possible evidence of use-wear. During the survey, 35 artefact scatters were located, mostly in close proximity to tributary watercourses, in areas of high surface visibility due to erosion.

In total, 158 m^2 had been excavated by hand during the course of the Bayswater salvage projects. A further 300 m^2 was excavated by backhoe with approximately a further 2,750 m^2 exposed by grader scrapes. From the salvage excavations a total of 5,731 artefacts were recorded from sub-surface deposits from seven different localities (Appleton 1994, Curran n.d., Fife 1995, Wilson 1995a 1995b, MacDonald 1997).

Bayswater #2

The Bayswater #2 Mine now forms part of the Mount Arthur Mining Complex. The Bayswater #2 Mine was initially surveyed over two days by Hughes (1981), who located seven artefact scatters and several isolated artefacts. All except one of the sites in the Bayswater #2 lease area were located along Ramrod Creek. No evidence was identified on ridge crests or hill slopes. The five sites along Ramrod Creek ranged in size from 75 to 225 m^2 and contained between 4 and 375 artefacts. Density varied between 0.025 and 5 artefacts/m^2 at these sites, although these calculations may not account for variations in surface or archaeological visibility. Silcrete was the dominant stone material.

Mount Arthur South Pit Extension (Umwelt 2007)

Umwelt (2007) investigated a 330 hectare area within the north-eastern portion of Bayswater #3 and south-eastern corner of MAN, for an extension of the MAN South Pit into the adjoining Bayswater #3 lease. Areas previously subject to comprehensive survey at MAN by Kuskie (2000) were not re-examined. The Umwelt (2007) survey involved coverage of the area within the north-eastern portion of Bayswater #3, and resulted in the identification of eight sites, comprising 42 individual loci of evidence.

Mount Arthur Coal Consolidation Project (AECOM 2009)

AECOM (2009) undertook investigations for the Mount Arthur Coal Consolidation Project, which sought to consolidate all existing planning approvals for the Mount Arthur Mining Complex into a single Part 3A Approval and to extend mining into additional areas. The complex contained three Heritage Management Areas (Macleans Hill of 139 hectares, West of Edderton Road of 131 hectares and Mount Arthur North-West Slopes of 138 hectares) and two conservation areas (Mount Arthur of 105 hectares and Saddlers Creek of 250 hectares). The Consolidation Project sought to extend mining operations into four areas and develop a 395 hectare out-of-pit overburden emplacement area, which would result in impacts to all three Heritage Management Areas.

Three areas that had not been previously surveyed by Kuskie (2000) or others, 86 hectares to the north of Mount Arthur, 495 hectares east of Thomas Mitchell Drive and 37 hectares at the northern end of Edderton Road, were surveyed by AECOM (2009). A total of 94 previously unrecorded sites, primarily open artefact sites but also two scarred trees, were identified.

In contrast to the broad-area landscape approach and definitions successfully utilised by Kuskie (2000) for the MAN project, the AECOM (2009) analysis reverted to a site-specific approach that largely discounted the potential heritage resources in areas not directly surveyed or in which surface visibility was limited, and did not take into account the substantial body of survey and excavation evidence from the Central Lowlands region and detailed occupation and predictive models relating to Aboriginal behaviour and subsequent distribution of evidence of occupation. The outcomes were used by AECOM (2009) to support recommendations that the three Heritage Management Areas be revoked and an alternative offset area be established.

Mount Arthur Open Cut Modification (RPS 2013)

A Modification under Section 75W of the EP&A Act to the Part 3A Approval for the Mount Arthur Mining Complex was assessed by RPS (2013). Surveys were undertaken of small areas adjacent to Edderton Road, Mount Arthur and east of the open cut mine, mostly relocating previously recorded sites (Kuskie 2000), but also identifying several new sites in areas not previously surveyed.

Mount Arthur Underground (Umwelt 2008)

Umwelt (2008) assessed the Mount Arthur Underground Project, immediately to the south of Mount Arthur North and partially encompassing the Bayswater #3 area. The Umwelt (2008) assessment focused on a 3,800 hectare area in which subsidence (and/or surface remediation) impacts may occur, and in which heritage resources had potential to occur, along with an additional potential conservation area along Saddlers Creek. A survey sampling this area was conducted by two archaeologists and representatives of the Aboriginal community over 23 days in 2006, using a similar methodology to Kuskie (2000).

A total of 509 site loci were identified by Umwelt (2008) within 77 broad-area sites, all open artefact occurrences apart from one scarred tree. The sites tended to be focused along the watercourses. A total of 9,603 artefacts were identified, including up to 2,000 in one locus, although most site loci contained ten or fewer artefacts. The assemblage was dominated by flakes, flake portions and flaked pieces, of tuff and to a lesser extent, silcrete.

The nature and distribution of evidence was very consistent with the predictive modelling of Kuskie (2000) and occupation model of Kuskie and Clarke (2004). No sources of silcrete or porcellanite were identified, although an ochre source was noted. Despite the presence of numerous sandstone outcrops, no grinding grooves or rock shelter sites/PADs were identified.

3.2.5 Mangoola

Umwelt (2006) conducted an assessment for the Anvil Hill Project (now referred to as Mangoola). The Mangoola project area of 3,763 hectares is located six kilometres west of the MPO SSD Area, on the western side of the Hunter River north of Denman.

The area investigated by Umwelt (2006) through survey sampling totalled 3,462 hectares and included the proposed impact area of 2,238 hectares and offset areas. The study area involved a number of similarities with the MPO SSD Area, in terms of landform patterns and landform units, but also contained higher order watercourses, plateaux and conglomerate/sandstone rock formations in the elevated terrain (eg. around Anvil Hill, Limb of Addy Hill, Wallaby Rocks and the 'Western Rocks') than in the MPO. The Umwelt (2006) survey that sampled this area was conducted by two archaeologists and representatives of the Aboriginal community over 22 days in 2005, using a similar methodology to Kuskie (2000).

A total of 173 new Aboriginal sites were identified by Umwelt (2006), comprising 16 rock shelters with artefacts/PADs within the elevated terrain with substantial rock formations, and 157 open artefact sites. The open artefact sites were distributed across the area, but were concentrated along watercourses. A number of open sites occurred on the rocky plateaux. Tuff dominated the artefact assemblage in the vast majority of sites. Many of the sites contained low numbers of artefacts (144 sites with less than ten artefacts in total). Flakes, flaked pieces, flake portions and cores dominated the combined assemblage. Worked mussel shell was identified in the WC47 rock shelter on Wallaby Rocks, and mussel shell fragments were located in two other shelters, a regionally rare occurrence (Umwelt 2006).

3.2.6 Synthesis

Numerous surveys have been undertaken within the Central Lowlands, often in relation to development proposals. Typically these surveys have:

- Involved a wide range of study area sizes, which are often very small but also include many relatively large areas (for example 3,600 hectares at Mount Arthur North, Kuskie 2000); and
- Resulted in the location of numerous artefact occurrences, primarily only when exposed by erosion or other forms of ground disturbance (for example 1,188 spatially separate loci of artefact evidence at Mount Arthur North, Kuskie 2000).

Artefact scatters in the region are typically dominated by two stone materials, tuff and silcrete, and it appears that dominance is generally related to the local availability, abundance and quality of these materials. Preferences of stone materials for manufacturing of backed artefacts appears to be equally variable and dependant on availability and quality of materials (Kuskie and Clarke 2006).

Artefact occurrences tend mostly to be identified near watercourses, particularly on level or gently inclined landform units and close to higher order streams. Fewer instances are reported of artefacts along ridgelines. However, the majority of surveys have obtained a disproportionate sample of watercourses in relation to other environmental contexts. Very little evidence has been identified along recent alluvial flats (Kuskie and Clarke 2006).

Individual open sites can range in artefact quantity from one to many hundreds or even thousands of artefacts. Typically however, many exposures of evidence contain fewer than ten artefacts. Artefact density in the surface assemblages varies, but is generally low (less than one artefact per square metre). Where sub-surface testing or salvage excavation has been undertaken, it has often resulted in the location of artefacts within the upper (A horizon or unit) soil. These deposits can include dense concentrations of artefacts, along with other features such as hearths and heat-treatment pits (Kuskie and Clarke 2004, 2006).

Flakes, flaked pieces (lithic fragments) and cores relating to general stone flaking and the production of microblades are items typically found in open artefact scatters. Artefacts that have been retouched or utilised typically comprise less than 5% of overall assemblages. Often bondi points (spear barbs) or other microliths comprise much of the retouched/utilised category. Tools relating to other activities also comprise a very small proportion of most assemblages (Kuskie and Clarke 2006).

Three basic patterns of site structure have been identified:

- Low density 'background discard';
- Isolated knapping floors/artefact concentrations, with minimal other evidence apart from 'background discard'; and
- Denser concentrations of artefacts extending over large areas, but without distinct knapping floors or clear spatial structure (Koettig and Hughes 1985:48).

Other site types have been recorded in the Hunter Valley, including grinding grooves, middens, bora and ceremonial sites, burials, scarred trees, stone arrangements, rock shelters with art, fish traps and places of contemporary or traditional Aboriginal significance. These provide evidence of the diverse range of Aboriginal behaviour reflected in the heritage resource, including subsistence, technology, material culture, spiritual practices and social behaviour.

Key research themes involved in archaeological analyses of the Hunter Valley have arisen from the large quantity of Environmental Impact Assessment driven work, particularly within the Central Lowlands region. These include (Kuskie and Clarke 2004, 2006):

- Analysis of stone working technology by technical attributes, conjoining and discard events;
- Spatial patterning of artefact distributions and arrangement of activity areas;
- Heat treatment;
- Age of occupation;
- Models of occupation;
- Artefact and site functions, including use-wear and residue analysis;
- Methodological issues; and
- Site integrity and post-depositional disturbance.

Aboriginal occupation within the Central Lowlands of the Hunter Valley commenced at least 20,000 years ago. Koettig (1987) obtained a date of >20,200 years BP from a hearth at Glennies Creek, 35 kilometres north of Branxton. Kuskie (in prep.) identified at least one site of Pleistocene age, WB1 (#37-6-402) at the South Lemington mine near Singleton, on the basis of geomorphological evidence. In surrounding regions, Aboriginal occupation has been dated to at least 19,000 years ago on the Liverpool Plains (Gorecki *et al* 1984), 11,000 years ago in the upper Mangrove Creek catchment of the Hawkesbury River (Attenbrow 1987) and 17,000 years ago at Moffats Swamp near Raymond Terrace (Baker 1994). However, the majority of dated archaeological sites in the Hunter Valley are less than 4,000 years of age (Brayshaw 1994:15, Kuskie and Clarke 2004).

3.3 Local Aboriginal Culture

3.3.1 Group Identity and Boundaries

Traditional Aboriginal culture in south-eastern Australia was complex and varied. The present state of knowledge is based partially on studies of contemporary Aboriginal communities in northern and central Australia and on observations of the south-eastern communities after the immense disruption caused by European settlement (Thompson 1985).

Peterson (1976) describes Aboriginal society as being comprised of a hierarchy of organisational levels and groups, with fluid boundaries between them. The smallest group in the hierarchy are ‘families’; a man with one or more wives, their children and frequently some of their parents. The second level are bands; small groups consisting of members of several nuclear families, who perform the normal hunting and gathering tasks together for most of the year (Peterson 1976).

At the next level are regional networks consisting of a number of bands. Members of these regional networks usually share beliefs in a common ancestor and/or have a common language dialect. Network members assemble for specific ceremonies, when the subsistence resources of a locality are plentiful enough to support a large number of people over a period of time. The 'tribe' is at a higher level in the organisational hierarchy. 'Tribes' are generally recognised as a linguistic unit with flexible territorial boundaries. At the broadest level of social organisation, or the pinnacle of the hierarchy, is the 'cultural area'. All groups within a 'cultural area' share cultural characteristics, such as a common initiation ceremony, and speak closely related languages (Peterson 1976).

The nature of organisation of Aboriginal groups within the Hunter Valley is unclear, due to the limited ethnohistorical records and the immense disruption to traditional culture that had already occurred by the time these observations were made. Earlier observers used the term 'tribe' to refer to anything from ten to 500 people. Aborigines themselves used a variety of names which might have referred to dialects, territories of other groups, local bands or regional networks (Brayshaw 1986).

According to Tindale (1974), the investigation area lies around the possible boundary of the Wonnarua people and Geawegal people (refer to Figure 49). Tindale (1974) describes the territory of the Wonnarua as comprising the Upper Hunter region, from a few miles above Maitland west to the Dividing Range and south to the Darkinjung on the divide north of Wollombi, across an area of 5,200 km^2. Tindale (1974) describes the area occupied by the Geawegal people as incorporating Muswellbrook, Aberdeen and Scone.

A resident of the valley in the 1840s, Mr Robert Miller, reported that the Wonnarua occupied "the Hunter and all its tributaries from within ten miles of Maitland to the apex of the Liverpool Ranges" and numbered around 500 people. Other authors (Enright 1932, Howitt 1904) report different descriptions of group names and boundaries, although Howitt (1904:83) professes to knowing very little about this region. The reliability of both Howitt's and Enright's evidence is questionable, due to the late period in which it was obtained.

Brayshaw (1986) suggested that ethnohistorical accounts indicate that much of the upper Hunter was occupied by the Kamilaroi tribe, possibly as far south as Wollombi Brook. Both Threlkeld (1892, in Gunson 1974) and Mathews (1903) described the Kamilaroi territory as extending south to Jerry's Plains. Breton (1833) documented a conflict between the Aboriginal inhabitants of Wollombi Brook and the Kamilaroi. 'Coomery Roy' or variations thereof was the name applied by early settlers to this tribe (Wood 1972). The unreliability associated with these accounts are highlighted by an article in *The Australian* of 21 September 1827 in which the 'Comnaroy' territory is described as only extending along the Hunter River between the Wollombi Brook and Goulburn River (Wood 1972:10).

James Miller (1985), a member of the Gringai clan of the Wonnarua, suggests that the Wonnarua were closely affiliated with the Kamilaroi, but formed a separate tribe that occupied a territory including the present investigation area (and much of the Hunter Valley). Miller (1985) believes that the Gringai and Geawegal are clans of the Wonnarua and also raises the possibility that the Awabakal people, who inhabited the coast around Newcastle and Lake Macquarie, were a sub-group of the Wonnarua.

Interestingly, the traditional Aboriginal burial dated to just prior to European settlement at Mount Arthur North (Donlon and Kuskie 2003) was of a man whose diet was dominated in relatively equal proportions by terrestrial foods and marine and freshwater foods (the closest marine source being 95 kilometres distant as the crow flies) and who had auditory meatus (possibly related to repeated immersion in water as a result of swimming and diving), providing archaeological evidence supporting this hypothesis.

Professor S. A. Wurm (in Gunson 1974:30) argues that 'Awabakal' was probably a clan (or 'regional network') name, not a tribal name, because that is what the suffix '-gal' or '-kal' usually meant. However, it is also possible that the name applied to the largest clan (or 'regional network') of a tribe in the Lake Macquarie region, which became the name by which the entire tribe was subsequently known (Wurm in Gunson 1974:30). Reverend Threlkeld observed that the Awabakal language was similar to the neighbouring Wonnarua, Darkinjung and Worimi languages (Gunson 1974:4). Gunson (1974) suggests linguistic evidence indicates that the Awabakal may have had most in common with the Wonnarua and also associated frequently with the Worimi.

From these accounts it is evident that the identification of names and boundaries of Aboriginal groups within the Hunter region is unclear and may never be resolved. The dramatic changes wrought on Aboriginal society before the time of the first ethnohistorical observations, combined with the lack of anthropological expertise of the recorders, has limited the usefulness of much of the information. Peterson's (1976) advice about the fluid nature of Aboriginal group boundaries is pertinent. Boundaries may have fluctuated within both short-term and long-term periods.



Figure 49: Cultural group boundaries after Tindale (1974).

3.3.2 Subsistence Resources

As discussed in Section 2, a wide variety of subsistence resources were available to the local Aboriginal population from the woodland/forest zone and the riparian zone along the Hunter River and other watercourses. Ethnohistorical and other evidence suggests that the diet of the local Wonnarua people would have included kangaroos, wallabies, echidna, emu, possum, bandicoot, fruit bat, koala, birds, wild fowl, goanna, snakes, lizards, fish, eel, freshwater mussel, tortoise, yam, ferns, macrozamia, berries, native orange, cabbage palm heart and wild honey (Brayshaw 1986).

No references are reported by Brayshaw (1986) of the seeds of kangaroo grass (*Themeda australis*) being ground, although their occurrence is widespread in the valley. The seeds are normally ground and baked and are available from December to March (Isaacs 1987:229). However, Wood (1972:112) reports that William Ogilvie, the settler of 'Merton' near Denman, and on friendly terms with the Aboriginal people, observed grass seeds being gathered in wooden vessels and ground on the slightly concave surface of a flattish stone. Several observations were also made of the use of Kurrajong seeds, which were reportedly ground and roasted (Cunningham 1825 in the Jerrys Plains area, cited in Brayshaw 1986, and Enright 1937).

Several ethnohistorical observations have been recorded of the use of plants and animals in the Hunter region (Brayshaw 1986). While these observations have tended to focus on visible activities, they have often omitted details of less visible (and predominantly female) plant gathering activities (Brayshaw 1986).

With the exception to these broad references there is little clear specific ethnographic information regarding Aboriginal resource use in the upper Hunter Valley. This has been attributed to the speed of European settlement into the area, in conjunction with marked population losses through illness/disease, physical dislocation and violence (Brayshaw 1966, 1986, Wood 1972, Miller 1985, MacDonald and Davidson n.d.).

Inferences however have been made which suggests that hunting and fishing also comprised a substantial portion of the Wonnarua diet (Miller 1985, Davidson and Lovell-Jones 1993). Land management practices through firing have also been assessed as a major economic activity (Miller 1985, Davidson and Lovell-Jones 1993).

While not specifically related to the Wonnarua, ethnographic accounts of the adjacent Awabakal have some pertinence. Several observations were made of the methods of obtaining food. Fishing, more prevalent in the coastal zone, was observed as angling with hook and line, diving, spearing from a canoe or bank, entrapment by hand nets (Miller 1985), and use of elaborate fish traps (Threlkeld in Gunson 1974). Bandicoots were observed being hunted and killed using waddies. 'High grassy bushy places' were first beaten to make them appear (Threlkeld in Gunson 1974:54). Dawson (1830:119) described the use of fire to trap a group of kangaroos, which if enclosed in a nook or bend in the river or by some other obstacle, were then killed.

Special mention is made in the ethnohistorical literature about the dependence of estuarine dwelling Aboriginals on 'fern roots', which presumably refers to bracken fern (*Pteridum esculentum*) or swamp fern (*Blechnum* spp.), but possibly bulbs and roots of swamp and marsh plants (Barrallier 1802:81, Ebsworth 1826:71, Moore 1981, Threlkeld in Gunson 1974:55, *Wallsend and Plattsburg Sun* 3/1/1891). The processing and consumption of Macrozamia seeds (available in the upper Hunter) was also reported (David 1890, Reverend C. P. N. Wilton in NSW Legislative Council 1846, Threlkeld in Gunson 1974:55). These also had to be prepared by a special process to remove toxins, involving soaking the seeds in water for a week or two, then roasting.

3.3.3 Material Culture

The material culture of the local Aboriginal population would have included a range of items relating to subsistence, cultural and social activities and shelter. Ethnohistorical observations of some of these items are discussed below. However, in the archaeological record, few of these items are preserved. Notable exceptions include small marsupial bones reported by Donlon and Kuskie (2003) in the Mt Arthur burial, possibly used to secure a small pouch or bag in which various artefact and ochre grave goods were placed, and worked mussel shell identified in a rock shelter at Wallaby Rocks, Mangoola, by Umwelt (2006). Stone, and to a far lesser extent, bone and shell, are the materials most frequently represented in archaeological sites.

From ethnohistorical, archaeological and other evidence it is apparent that the material culture of the local Wonnarua people would have included a range of items other than stone tools, such as possum skin cloaks and belts, waddies, digging sticks, wooden bowls, water carriers, wooden shields, spears, spear-throwers (woomeras), clubs, hafted stone hatchets, boomerangs, baskets, dilly bags, bark huts, bone awls, and possibly message sticks, clapping sticks, bark and vine cords, canoes, fishing lines, fish nets and fish hooks.

Ethnohistorical observations of material culture are reported by Brayshaw (1986) and Kuskie and Kamminga (2000). The most pertinent observations to the current investigation relate to stone implements and spears. Threlkeld (in Gunson 1974:67), as described below, mentions the use of quartz flakes and later broken glass, to form serrated edges along fighting spears. Barrallier (1802:81 in Brayshaw 1986) also noted fighting spears with 'pieces of sharp quartz stuck along the hard wood joint on one side so as to resemble the teeth of a saw'.

Stone hatchets ('baibai', 'pukko') were observed by Threlkeld (1834, in Gunson 1974), Barrallier (1802) and Dawson (1830). Dawson (1830:202) observed grooved heads with a handle fastened by adhesive gum. Dawson (1830) states that gum obtained from wattle (*Acacia* spp.) and grass trees was used in the manufacture of much equipment. The stone was mainly basalt or diorite and ground at the edge. Hatchets were used to cut saplings for building gunyahs, for stripping bark from trees, cutting notches in trees for climbing, and cutting toe-holds in trees to procure animals or honey from bees nests (Mathews 1894).

However, apart from quartz spear barbs and stone hatchets, no mention is made in the ethnohistorical literature of other types of stone artefacts. None of the ethnohistorical accounts explain the profusion of microliths within archaeological sites, nor do they identify the large core and flake component as having been used within the historical period (Brayshaw 1986:68).

Brayshaw (1986) suggests that this may be due to these items having escaped the attention of observers, or that they were not in use at the time of contact, having been replaced by shell, wood or bone. Dawson's (1830:135) observation of trade involving shells used to 'scrape and sharpen spears' is pertinent. Dean-Jones (1990:68) argues that it was because most observations were made from a distance and the stone tools were too small to be seen. For whatever reason, the manufacture or use of stone artefacts, which make up the majority of evidence in archaeological sites, is scantly documented.

As mentioned previously, there is little specific direct ethnographic evidence of the Wonnarua available, however analogy may be made with that of the Awabakal people to the east. Reverend Threlkeld (in Gunson 1974:67) provides detail of the manufacture of fishing, hunting and fighting spears among the Awabakal people:

> The fish spear ('Kul-là-ra' and 'Mo-ting') are made 'from the stem of the grass tree, at the end there are four pieces of hard wood, about two feet long, (which) are fastened with a bark thread covered with the grass tree gum, heated in the fire until at a melting point, when it is worked round the thread fastening it ... The three or four shorter spears thus fastened to the long stem of the grass tree, of about six feet length, becomes thus somewhere nigh eight feet in the total length... Small wooden wedges are inserted betwixt the attached short spears just at their base where they are tied, and likewise gummed over firmly... The points of each skewer is hardened in the fire, by charring; and when hot, covering it with a coating of the grass tree gum, fastening at the same time a barb of bone at the point'.
>
> 'The hunting spear, 'wa-rai', is likewise made from the stem of the grass tree, but having only one hardened joint of wood inserted at the end, as already described. The battle spear is made of the same material, but often with the addition of pieces of sharp quartz stuck along the hard wood joint on one side so as to resemble the teeth of a saw. The march of intellect directed the blacks, latterly, to use fragments of broken glass bottles instead of quartz, thus inflicting fearfully lacerated wounds ...'

All spears are thrown by a throwing stick (‘wom-mur-rur’) generally four foot long by half an inch thick, tapering to a point at one end where a barb is fixed (Threlkeld in Gunson 1974:67). Threlkeld observed the trade of spears with populations further inland, in return for possum skin cloaks and ‘hanks of line, spun by hand from the fur of animals of the opossum tribe’ (Threlkeld in Gunson 1974:42, 61). Mrs Ellen Bundock observed the leader of the Aboriginal group who attacked Merton in April 1826 as being clothed in a possum skin rug (Brayshaw 1986:67).

Threlkeld describes a variety of items including waddies, often made of ironbark wood (Ebsworth 1826:77 in Brayshaw 1986); yamsticks, up to two metres long and four centimetres in diameter; fish hooks made of shell ground down on stone; wooden bowls cut from tree burls; water carriers of sheets of bark, tied at each end with a bent twig handle; oval wooden shields, three feet long by eighteen inches wide, painted with a white coloured earth resembling pipe-clay and crossed with two red bands or stripes; two forms of canoes made of bark from trees, one which measured 12-14 foot long by 3-4 foot wide; hand nets used for fishing; and fishing lines (Threlkeld in Gunson 1974:42, 54, 67, 190).

The ethnohistorical evidence reveals that a broad range of items were part of the local Aboriginal material culture. Other items not mentioned above but also likely to be present include message sticks, clapping sticks, bark and vine cords, netted and woven dilly bags, shell pendants and fur belts (Brayshaw 1986).

3.3.4 Other Aspects of Society

Other aspects of Aboriginal culture and society were noted by the early settlers and explorers. Threlkeld (in Gunson 1974) for example, described a burial, initiation ceremonies, cosmological beings and corroborees among the nearby Awabakal people.

Burials were noted as tending to occur in any soft ground. When not buried, the body can be wrapped in two sheets of bark, secured with cords of kurrajong and placed in a hollow tree (Fraser 1882, Wood 1972:145). Breton (1833:203-204) described the burial of four men and two women, of the 'Kamilaroi tribe', who were killed near Wollombi Brook:

> Their remains were covered with mounds of earth, the men buried in the shape of a cross and the women in the shape of a cone. Four waddies were placed in the centre of the men's burial. A circle ten metres in diameter was cleared around the site and a second circle made around that. Pieces of bark were laid end to end in the intervening ground. The surrounding trees were carved with figures representing kangaroos, emus, possums and weapons.

Threlkeld (in Gunson 1974: 46) recorded a typical hunting expedition, one of many on which he accompanied the Awabakal people who lived on the coast adjacent to the Wonnarua:

> At sun rise the whole tribe prepares for the hunt by taking their spears, throwing-sticks, hatchets and fire-brands, proceeding to the hills, they scatter themselves so as to surround a valley, leaving the entrance guarded by several good marksmen armed with spears. The surrounding party then begin to enclose shouting with all their might, but still in regular time. The kangaroos and other animals become alarmed and make towards the entrance of the valley, where a shower of spears transfix them in their endeavour to escape... A fire is kindled on the spot and the animals are grilled...

Dyall (1971) and Sokoloff (1978b, 1978c, 1978d) note the importance of fire. Fire was used to burn scrub in winter, which encouraged early growth of spring grasses to attract kangaroos and wallabies, and cleared the ground to make hunting easier (Dyall 1971). Fire was also used for cooking, warmth, in signalling between groups, initiation ceremonies, disposal of corpses, mourning, making weapons and canoes, fishing and hunting (Sokoloff 1978c).

Trade with other Aboriginal groups was noted by several observers. Dawson (1830) referred to communication between Aborigines of the interior and coast in which possum skins, belts of yarn and headbands were exchanged for European hatchets, shells and glass. Threlkeld (in Gunson 1974:42, 61) also observed that possum skin rugs and fur cord made by the inland people were traded with the coastal Awabakal for reed spears.

The selection of locations for camp sites is a critical issue in the study of archaeological evidence. However, few ethnohistorical observations were made of this process. One notable account is by Fawcett (1898:152), of the Wonnarua:

> In choosing the site, proximity to fresh water was one essential, some food supply a second, whilst a vantage ground in case of attack from an enemy was a third.

Topographic features may also have been an important part of the Wonnarua cosmology. Mount Arthur (483 metres AHD), located eight kilometres south-east of the MPO, is a visually prominent local peak that may have retained significance associated with non-secular beliefs (Kuskie and Clarke 2004). Mulvaney and Kamminga (1999:77) and Miller (1985) suggest that a variety of links between topographic features, as well as plants and animals, were integral parts of the Dreaming. Mount Arthur (in conjunction with plants and animals) may have been part of the Dreaming, for example as a life essence and spiritual power in relation to creation events and stories, as part of a Dreaming track, or in relation to initiation ceremonies (Kuskie and Clarke 2004).

3.3.5 Population

Early European settlers and visitors reported several observations about the nature and size of the local Aboriginal population. In 1819, Howe observed five people on the river at Jerry's Plains (Campbell 1928) and Breton (1833) observed a group of 60 or more people, apparently travelling to fight with another group. Surveyor Felton visited an Aboriginal camp on Wollombi Brook, near Broke, in 1830, and reported there were 60 people present.

Wood (1972) reports that a settler at Patrick's Plains (Singleton) in 1824 counted 300 healthy Aboriginal men in the district. Twenty years later, less than three dozen could be found and they no longer camped in the bush but lived on the properties of settlers who would permit them. One of these survivors was reputedly Galmarra (Jackey Jackey), taken by Edmund Kennedy on his expedition to Cooper Creek and Cape York, along with Merton Aboriginals Jimmy and Tommy Ogilvie (Wood 1972, Blyton *et al* 2004).

In the returns of Aborigines from selected blanket distributions, the following populations were recorded at Patrick Plains (Singleton) (Brayshaw 1986:58):

- In 1834, 34 adult males, 24 adult females, 12 male children and four female children (total 74);
- In 1838, 51 adult males, 13 adult females and no children (total 64); and
- In 1843 (also including Wollombi), 43 adult males, seven adult females, six male children and one female child (total 57).

Wood (1972) reports that 60 blankets were issued to the Merton Aboriginals in 1854, but an influenza epidimic in the Hunter in 1860 caused many deaths, and by this year only 30 blankets were issued.

Due to the probable effects of the first smallpox epidemic in 1789, it is unlikely that the Europeans ever gained an accurate understanding of traditional population sizes. What is certain is that from the time of early settlement the number of Aboriginal people declined rapidly (Brayshaw 1986, Hartley 1986:48, NSW Legislative Council 1846).

3.3.6 Relationship with Settlers

Observations have been recorded of encounters between Aboriginal people and the early settlers and about the relationship between these groups. A number of initial encounters in the Hunter Valley were relatively friendly (Dawson 1830, Miller 1985, Needham 1981, NSW Legislative Council 1846, Threlkeld in Gunson 1974:44, Wood 1972). These were often between Aboriginals and escaped convicts and timber getters, but also free settlers.

Aboriginal people were used as guides and trackers. When Chief Constable of Windsor, John Howe, set out in October 1819 to establish an overland route from the Hawkesbury to the Hunter, his party included an Aboriginal named Myles (Wood 1972). In 1822, James Mudie asked Henry Dangar for instructions to find his way through the bush to Singleton, with the assistance of Aboriginal guides.

William Ogilvie and his family, occupiers of Merton, near Denman, from 1825, are reported as having a good relationship with the local Aboriginal people and took a strong interest in their culture (Wood 1972, Miller 1985). Wood (1972) compiled their story from the memoirs of Mrs Ellen Bundock and her daughter Mary (grand-daughter of Mrs Ogilvie), the account of Peter Cunningham (who resided at Merton between 1826 and 1828), and other official correspondence.

The Ogilvie's sons, Edward and Fred, spent much time engaged in activities with the local Aboriginal people, including hunting and fishing. The Merton Aboriginals worked for the Ogilvie's on their numerous properties (including in the other regions), and were locally known as 'Ogilvie's Blacks' (Wood 1972).

However, serious conflict in the region quickly arose over the mistreatment of Aboriginal women by the settlers, and misunderstandings with pastoral settlers, which became more common. Convicts were often brutal to the Aboriginal people (Dawson 1830, Gunson 1974:4-5). As a result, whenever a tracker was required to search for an escaped prisoner, there was always an Aboriginal person ready for service and often the prisoner was speared when captured (Turner and Blyton 1995). The behaviour of timber getters in cutting down trees (believed to house the souls of Aboriginal people awaiting rebirth) and shooting fauna (totem animals to the local Aboriginals) were also causes of conflict (Needham 1981).

Cases of conflict are reported in the upper Hunter Valley. In August 1826, an 'attack' is documented at Merton, near Denman, approximately ten kilometres south-west of the MPO, where Aboriginal people potentially numbering up to 200, arrived in search of several white men said to be responsible for detaining another Aboriginal. In the absence of Mr Ogilvie, Mrs Ogilvie averted conflict through offering tobacco and corn. However immediately thereafter an attack on the Lethbridges saw several settlers killed (Wood 1972).

Local landowners, including Ogilvie, subsequently petitioned Governor Darling in 1826 to recall the Mounted Police, noting that local Aboriginal people had recently "burnt all the grass on several farms, killed some men, have speared several cattle, and threatened to destroy the wheat of the ensuing harvest" (*Historical Records of Australia* 1, XII:576). The Mounted Police moved into the area to put down Aboriginal resistance, with several people shot or sent to jail (Davidson and Lovell-Jones 1993). On 16 August 1826 at Ogilvie's property, Tolou ('Ben') and Mirroul ('Denis) are documented as having been arrested and jailed (*Historical Records of Australia* 1, XII:618). Wood (1972:121-127) documents that William Ogilvie subsequently effected the release of both men, who he believed were innocent.

The recent settler James Greig caused angst to the Aboriginal people by refusing to allow them on his property near Denman and the Hunter River. Greig is reported to have hated the indigenous people and often shot any who tried to cross the property, and did not allow people to fish on the Hunter River alongside it (Miller 1985:36). In 1825, Robert Greig was found dead, along with a shepherd, on the property, apparently speared (Wood 1972:113).

In the region, from the 1830s groups of Aboriginal people raided settlers' properties and stole food and attacked people. Wonnarua people organised a concerted campaign of violent resistance against the white settlers/invaders (Gollan 1993, Miller 1985). Many offenders were captured and tried before the Supreme Court in Sydney. Some were acquitted and others were sentenced to death (Turner and Blyton 1995). Settlers conducted various atrocities against the Aboriginal people. For instance, in March 1827, shepherds murdered 12 Wonnarua people along the Hunter River (Miller 1985:41).

Opinions of the settlers varied, with some viewing the Aborigines as "savages ... with no homes, no occupation beyond procuring food for the day, and think nothing of tomorrow ... they resist labour' and wander 'from place to place as the game grows scarce" (Davidson 1846:144-6). However, other settlers, such as the Ogilvies of Merton, viewed the Aborigines from a different perspective, and treated the Aboriginal people with respect and likewise earned their respect. Missionaries such as the Reverend Threlkeld were also genuinely interested in and spent considerable time and effort observing and recording Aboriginal life.

3.3.7 Recent Aboriginal History

The arrival of non-indigenous people had disastrous effects for the local Aboriginal people. The observations of early settlers give pertinent insights into the main causes of this event.

The rapid spread of European diseases, which the Aboriginal population had not hitherto been exposed to or developed immunity to, was a major factor. Smallpox, typhoid, influenza, scarlet fever, measles, diphtheria, whooping cough and croup contributed to the deaths of many Aboriginal people (Wood 1972). Major smallpox epidemics occurred between April and May 1789 and again from 1829 to 1831 (Butlin 1983). The first epidemic was reported to have decimated half of the Aboriginal population between Botany Bay and the Hawkesbury (Butlin 1983). E. M. McKinlay of Dungog and Joseph Docker of Scone stated that an epidemic of smallpox swept through the Aboriginal population in the upper Hunter in 1835 (Miller 1985).

Reverend Threlkeld noted in 1828 the effects of influenza and in 1837 the effects of measles, hooping cough and influenza (Turner and Blyton 1995). In a reply by various Ministers of the Church of England in the Hunter Valley, to a circular issued in 1846 by the NSW Select Committee on the Condition of the Aborigines requesting information on the state of the local Aborigines, responses highlighted the effects of diseases and a rapid recent decrease in the Aboriginal population. Reverend C. P. N. Wilton, Minister of the Church of England in Newcastle, reported smallpox and measles to be factors in the rapid decrease in the local population (by half in the previous ten years) (Wilton in NSW Legislative Council 1846). Reverend George Augustus Middleton, Minister of the Church of England at Morpeth, partially attributed the population decline to native pock and influenza (Middleton in NSW Legislative Council 1846).

Factors other than disease contributed to the rapid decimation of the Aboriginal population and traditional life, including the loss of traditional hunting grounds and a decrease in abundance of the game that populated them. Again, the Church of England Ministers highlighted this factor. Reverend Wilton observed that the ordinary means of subsistence for the Aboriginal people was greatly diminished: 'Emu, kangaroo, wallibi and opossum almost disappeared from their hunting grounds', fish and 'Kon-je-voi' were the only abundant foods left' (Wilton in NSW Legislative Council 1846). Reverend Middleton also observed that the ordinary means of subsistence were seriously diminished, due to clearance of brushes and draining of lagoons. No kangaroos were present, but rivers, lagoons and forests continued to supply some food (Middleton in NSW Legislative Council 1846).

Lieutenant Breton (1833) observed at Wollombi a great reduction in the number of kangaroos within several years in the early 1830s.

Turner and Blyton (1995) argue that violence perpetrated by non-Aboriginal men against Aboriginal women was a major cause of the decline in population, at least in the Lake Macquarie region and possibly elsewhere. Violent encounters and abuse have been documented ethnohistorically and were a source of early conflict (Miller 1985). The effects of rape on Aboriginal women included the transmission of diseases, some of which may have led to infertility and/or death, and the production of offspring of mixed Aboriginal and European blood, which may have been very undesirable for the Aboriginal parent. However, Miller (1985) argues that the Wonnarua were possibly the first Aboriginal group to allow the children of mixed parentage to live, a factor that contributed to their survival.

The rapid deaths of many Aboriginal people through disease also acted to destroy the complex structure of their traditional society. Systems of kinship, marriage, order and subsistence were thrown into disarray.

By the 1840s, many of the remaining local Aboriginal people were dependent upon the settlers for old clothing, money and rations (Wilton in NSW Legislative Council 1846). Aboriginal people were employed by settlers as hewers of wood, drawers of water (Backhouse 1843:389), about the house, to run errands, or on farms to gather maize or burn off (NSW Legislative Council 1846).

The annual distribution of blankets conducted by the Government was ended in 1844, to the anger of the local Aborigines who could no longer obtain traditional possum skin cloaks due to the reduction in animal numbers and possible loss of knowledge and trading networks.

The destruction of their traditional society and the increasing reliance on the settlers led some Aboriginals into a life of alcohol abuse. Increased hostility among Aboriginal people resulted from these pressures on their society, the integration of groups which historically had hostile relationships, and the effects of alcohol (Hartley 1995, Wood 1972).

In the latter part of the 1800s there was growing concern in NSW about the plight of the Aboriginal people. The Aborigines Protection Association was formed and in 1881 a Protector of Aboriginals appointed. In 1883 the Government established a Board for the Protection of Aborigines to achieve a 'more systematic and enlightened treatment of Aborigines'. Rural stations were created so that Aborigines could remain on tribal territory (Turner and Blyton 1995). One such station was established on 23 hectares (later to become 33 hectares) at St. Clair, 20 kilometres north of Singleton. However, the Protection Board became one of the organisations most feared by the Wonnarua people, who were systematically oppressed by its actions (Miller 1985).

By the 1940s people moved to the urban areas to escape the oppression of the Aboriginal Protection Board and to find employment. Singleton and Muswellbrook became the main centres for Aboriginal people in the central to upper Hunter Valley. Thousands of Aboriginal children in NSW were removed from their families between 1909 and 1967 and placed in institutions. Aboriginal people outside of the missions lived in shanty settlements on the fringes of European communities or in tent villages alongside railway lines (Turner and Blyton 1995).

A vibrant Aboriginal population remains in the region today, and takes an active interest in their heritage. Consultation with the local Aboriginal community has formed an integral part of the assessment (refer to Section 6). As discussed in Section 3.5, consultation with the Aboriginal community is essential to identify certain site types and cultural values.

3.3.8 Ethnohistorical References to Aboriginal Sites

With the exception of the ethnohistorical oral sources regarding a massacre in the Mount Arthur locality, approximately eight kilometres south-east of the MPO, there appears to be little ethnohistorical information regarding Aboriginal heritage sites in the immediate locality. Some ethnohistorical records in the area relate to an incident regarding conflict between local settlers, Wonnarua and the military. The following is an excerpt from oral histories recorded by Davidson and Lovell-Jones (1993: 22-23) and is corroborated by Gollan (1993):

> This story relates to 'The Pocket' or 'The Little Pocket' on the southern side of Mount Arthur. It is believed that a group of approximately 300 local Aboriginal people were either camping in, or were driven into, 'The Pocket' by the Mounted Police (numbers of police unknown). The story goes on to relate that the Aboriginal people, who were thought to be the last survivors in the district, were subsequently all shot to death, men, women and children, by the mounted police from "on top of the pocket". No one could then relate what they may have been told had happened to the bodies.

> This aspect of the story does not seem to be corroborated by material evidence. None of the informants, who worked around Mount Arthur or played in the rock shelters or "caves" of Mount Arthur, as children, ever saw any human remains or other material culture remains of Aboriginal people. One informant indicated that in one "cave", in Mount Arthur, there is a crack along the back where "if you throw a rock down it you can't hear it land". The archaeological survey in 'The Pocket' revealed three locations with artefacts, but no other sign of Aborigines. Moreover, James and Fife were of the opinion that the slopes and their wooded nature would not have allowed the sort of attack from above being described.
>
> All but one of the informants believed the massacre at the pocket to be accurate, although, all informants trusted that the person who told them was a reliable and honest source (usually a parent or grandparent). They also related their fears of the area and spoke of "horses always being spooked near the pocket", they would also "get this feeling that someone was watching me" and their own "hair rising on the back of the neck" and of a nearby "windmill spinning tail first" with or without accompanying wind.
>
> Another possible massacre site was described to James and Fife while they were surveying in the field. This site is located in a gully behind the property of Belmont … however this rumour was not corroborated by any of the other informants. The reasons given for the massacre in the oral histories are varied. One informant had been told as a young child that the rape of a local shepherd's wife was the impetus for the "tribe being shot out". The same informant had also been told that "Dangar was to blame". Another informant was told as a child that the local Aborigines had "raided a house in Denman" and that the mounted police "had caught the Aborigines in The Pocket" (Davidson and Lovell-Jones 1993: 22-23).

Gollan (1993:6) suggests that the Mount Arthur locality may have been used as a base for the Wonnarua people to which they withdrew after lands had been seized by European settlers. It is from Mount Arthur that the Wonnarua may have "… mounted their defence of their land and food sources" (Gollan 1993:6).

3.4 Occupation Model

In order for any investigation to contribute effectively to the management of the heritage resource, the following key elements of a research design (Boismier 1991) are essential:

1) Identification of the specific environmental and cultural characteristics of the area;

2) Construction of a model of Aboriginal occupation for the locality;

3) Definition of the expected nature and distribution of evidence;

4) Formation of a methodology to test the predictive model and relevant research questions, in consideration of the expected nature and distribution of evidence; and

5) Analytical techniques for the evidence recovered that are appropriate to address the research questions and project objectives.

The environmental context of the investigation area has been outlined in Section 2, and the proposed methodology and analytical techniques are discussed in Section 4. The model of Aboriginal occupation for the locality and expected nature and distribution of evidence are discussed below and in Section 3.5.

Broader models of occupation for the Hunter Valley region have been proposed by Kuskie and Clarke (2004) for the central to upper valley and by Kuskie and Kamminga (2000) for the lower valley, based on ethnographic, ethnohistorical, oral historical and archaeological evidence. These models have been refined through subsequent excavations and analysis (eg. Kuskie and Clarke 2006, Kuskie and Ingram 2008). Elements of the regional models that are of particular relevance to the investigation area are outlined below, with the nature of expected *archaeological* evidence to test the individual elements specified in *italics*:

- Occupation predominantly focused on the relatively more abundant and diverse resource rich zones within the tribal territory (for example, the junction of multiple resource zones) particularly along the Hunter River and its former estuarine margins and around wetlands, swamps and lakes. Within the *primary resource zones*, such occupation could include nuclear/extended family base camps, community base camps and occasional larger congregations of groups where resources permitted. Encampments in more favourable locations (for example, abundant resources and water) may have been the subject of stays of longer duration and more frequent episodes of occupation than in other areas (for example, secondary resource zones, refer below);

    - *Substantially higher counts and densities of artefacts and numbers of activity areas, along with a greater range of stone material and artefact types may occur in the primary resource zones than in other areas.*
    - *Encampments in more favourable locations used for longer durations and more often may exhibit greater superimpositioning of activity areas, greater quantity and density of evidence, and evidence of different episodes in the form of in situ deposits with stratified or vertically separated evidence of activity events and datable material.*
    - *Refer below for discussion of expected evidence for different occupation types.*

- Outside of the primary resource zones sporadic occupation of *secondary resource zones*, focused on the watercourses, particularly within close proximity (for example, 50 metres) of higher order watercourses and associated level to very gently inclined valley flats. These zones were utilised for encampments by small parties of hunters/gatherers and nuclear/extended family groups during the course of the seasonal round. There was a strong preference for camping on level ground, adjacent to reliable water sources and more abundant subsistence resources. A greater range and frequency of activities were undertaken at the encampments, rather than in the surrounding landscape. Camp sites along the watercourses were occupied by these small groups of people for varying lengths of time (but of typically short duration), during both the course of the seasonal round and in different years. Occupation of these camp sites was predominantly sporadic, rather than continuous;

    - *Moderately higher counts and densities of artefacts and numbers of activity areas, along with a relatively broad range of stone material and artefact types may occur in the secondary resource zones than in other areas, but to a much lesser degree than in the primary resource zones.*
    - *Refer below for discussion of expected evidence for different occupation types and identifying whether occupation is sporadic or continuous.*

- Not withstanding the points above, widespread, generally low intensity, usage of the entire tribal territory. Occupation outside of the primary resource zones and secondary resource zones tended to involve hunting and gathering activities by small parties of men and/or women and children, along with transitory movement between locations and procurement of stone materials. However, the utilisation of these areas (for example, simple slopes, ridge crests, spur crests and lower order watercourses) was far less intense than areas such as valley flats and higher order watercourses where encampments were situated and potable water and more abundant resources were present. These areas were probably typically exploited during the course of the normal daily round by inhabitants of encampments located in the primary or secondary resource zones that foraged within an area of up to ten kilometres radius from their campsites;

    - *Evidence of low intensity occupation that may include low to very low artefact counts and densities and low numbers of activity areas, along with dates/stratigraphy indicating sporadic occupation over time, not continuous occupation.*
    - *Refer below for discussion of expected evidence for different occupation types.*

- Occupation outside of the primary and secondary resource zones also involved special purpose journeys (for example, to procure stone from a known source or to access an area for ceremonial/spiritual purposes) and non-secular activities (for example, ceremonial activities);

    - *Evidence of lithic or quarry sites may occur at stone/ochre sources. More abundant evidence at a particular location may indicate repeated and special-purpose visits, as may the absence of evidence associated with other occupation types.*
    - *Refer below for discussion of expected evidence associated with ceremonial activities.*

- Thus, occupation extended over the entire tribal territory, with varying intensities and involving different activities, and occurring at different times of the year and different periods within the overall time-span of occupation;

    - *Evidence of occupation at different times of year may be tested only if specific seasonal plant/food evidence and/or associated tool types involved in their processing can be identified in association with occupation.*
    - *Identification of different episodes of occupation over time would require in situ deposits with stratified or vertically separated evidence of activity events and datable material.*

- Occupation (or at least the evidence that survives of that occupation) predominantly occurred within the mid to late Holocene (past 5,000 years), after climatic change and rising sea-levels transformed the environment of the region, although sporadic occupation of the Hunter Valley may have extended as far back as 30,000 to 40,000 years;

    - *Charcoal in a cultural context may be radiocarbon dated or other forms of dating may be used to establish the age of occupation.*
    - *Specific artefact types may also provide evidence on the age of occupation.*

- Activities such as food procurement (hunting, gathering and land management practices such as burning-off), food processing, food consumption, maintenance of wooden and stone tools, production of stone tools (including systematic production of types such as backed artefacts, as well as hafting of implements and casual, opportunistic production of other items on an as needed basis), production of wooden tools and other implements, procurement of stone, erection of shelters, children's play, ceremonial activity, spiritual activity, human burials and social and political activity are among the types of pursuits engaged in by the local Aboriginal people across the tribal territory;

- *Food procurement (including hunting, gathering and land management): minimal evidence expected for most types of food procurement, apart from the presence of stone artefacts such as eloueras, wooden implements where preserved, such as digging sticks, or food refuse (eg. shell and bone) in sites.*
- *Food processing and consumption: evidence expected includes tools with specific use-wear/residues on cutting/chopping/pounding edges, specific tools that are related to processing certain foods (eg. eloueras, seed grinding slabs), evidence associated with hearths or ovens, and food refuse (eg. shell and bone) in sites.*
- *Production and maintenance of wooden implements: expected evidence includes stone and shell tools with design and/or use-wear/residues consistent with working wood, and the presence of wooden implements in sites.*
- *Production of stone tools: evidence expected includes hammerstones, anvils and most abundantly knapping debitage (eg. cores, flakes, flake portions, microblades, etc), along with some of the finished tools themselves.*
- *Production of backed artefacts: evidence expected includes finished microliths (unused), bondi point preforms, backing flakes, chimblers/hammerstones, high quantities of debitage including a high frequency of elongated flakes (microblades);*
- *Maintenance of stone tools: expected evidence includes cutting-edge rejuvenation flakes (eg. flakes from utilised edges of eloueras or other tools), portable whetstones, and axe-grinding grooves in sandstone.*
- *Procurement of stone: presence of stone sources and evidence for procurement at those sources (lithic quarry sites).*
- *Ceremonial activity: presence of ochre in sites, and evidence of ceremonial sites (bora grounds, stone arrangements, carved trees, rock engravings, etc).*
- *Spiritual, social and other activity: presence of ochre in sites, evidence of ceremonial sites (bora grounds, stone arrangements, carved trees, etc) and rock art and engravings.*

- Activities varied in frequency and occurrence within the landscape (and between the different occupation site types - refer below), probably in relation to numerous variables such as topography, distance to resource zones, distance to water, aspect, slope and cultural choice. However, few activities are evident within the archaeological record other than those involving the use of stone, or where preservation conditions permit, other materials such as bone, shell and wood. The majority of evidence within an archaeological context will relate to reduction of stone, but some evidence will exist of encampments, food processing, food procurement and ceremonial and other activities;

  - *Predominance of stone artefacts as the surviving physical evidence of occupation.*
  - *Occasional evidence of hearths and other activities (refer elsewhere in this section).*

- The stone materials silcrete and tuff were favoured for stone working activities, with the relatively intensity of use of each material dependent upon the proximity of local sources. Tuff was primarily procured from exposed bedrock in hills, along drainage depressions and along the coastline where this rock type exists. It is available in many locations due to its abundance in the local coal measures. Silcrete was also procured from local sources (alluvial and terrace gravels). Other stone materials such as porcellanite and petrified wood were also preferentially employed for manufacturing small implements such as backed artefacts. Again, selection and use of these materials also related to their relative availability from local sources in various locations within the landscape;

  - *Dominance of these stone types within most archaeological assemblages. Evidence of nature and location of stone sources and attributes on individual artefacts that can potentially be linked to sources (eg. cortex, size, extent of reduction).*

- Stone was typically procured during the course of normal daily and seasonal movements, without the need for special purpose trips. The conservation of the most commonly used stone materials such as silcrete and tuff was not a priority. However, high quality less commonly utilised materials may have been procured from more distant sources by special purpose journeys and/or trade;

  - *Presence of stone sources and evidence for procurement at those sources (lithic quarry sites). More abundant evidence at a particular location may indicate repeated and special-purpose visits, as may the absence of evidence associated with other occupation types. Particular stone materials may be traced by chemical/physical tests.*

- Minimal use was made of other stone materials. Several of those that were utilised (quartz, quartzite, acidic volcanics, chalcedony and chert) were probably obtained from local sources such as alluvial and terrace gravels, terrestrial outcrops and weathered conglomerate rock. However, other types such as dacite and rhyodacite (used for grindstones) may have been obtained from sources on the coast north of Newcastle (around Birubi Point) by either trade or exchange, special purpose trips, or visits during the normal seasonal round;

  - *Relatively low frequencies of these types within archaeological assemblages*.

- Heat treatment of silcrete was undertaken to improve flaking qualities and possibly to obtain desired colours. Heat treatment involved both cobbles and large primary flakes of silcrete. Tuff was not deliberately heat treated. A reasonably high proportion of silcrete used in knapping was treated, and some of the products include bondi points that were hafted to spear heads. Kuskie and Kamminga (2000) speculate that colours had important symbolic meaning in Aboriginal society, and part of the reason for heat treatment may have been to obtain a desired colour as well as to improve the flaking properties of the stone. This may have been especially important for armatures of fighting and hunting spears;

  - *Presence of stone in an archaeological context that has been thermally altered (and deliberate heating is inferred), along with heat treatment pits*.

- Ochre was used for ceremonial purposes and is likely to have been procured from relatively local sources;

  - *Presence of ochre in association with areas where preparation occurred for ceremonial activities and evidence of ochre procurement (quarries) at local sources*.

- Backed artefact production occurred widely, with the primary goal of producing microliths (such as bondi points) that could be hafted onto hunting or fighting spears made of grass tree stems or other wood, with the use of resin. It was more likely to be a planned and organised activity, but it did not necessarily occur only at nuclear family base camps or hunting party camps. Microblade production may also have occurred in places traversed during the course of hunting expeditions, such as resting places along travel corridors. When the production of microblades occurred away from camps, it may have involved more casual or opportunistic behaviour, such as backing a microblade to replace a spear barb when needed;

  - *Evidence expected includes microblades, microblade cores, microblade portions, microlith backing flakes, bondi point preforms and preform portions, complete and broken microliths and other debitage associated with their production, in association with sites interpreted as being nuclear family base camps or hunting-party camps. Also, some evidence (including microlith backing flakes and broken and utilised bondi points) would be expected away from these locations.*

- Production of backed artefacts was time-consuming and resulted in a considerable quantity of stone debitage at localities where it was undertaken. It is speculated that the end purpose (hunting or fighting spears armed with stone barbs) must have been highly desirable and socially valuable (Kuskie and Kamminga 2000). Hunting larger animals with spears was also a high-risk subsistence activity (in terms of invested time, energy and the price of failure), whereas most dietary requirements could be adequately met through low-risk means (ie. more reliable in terms of time, energy and return). Global scale analyses have demonstrated that in lower latitudes (in which the Hunter Valley is situated), with longer plant-growing seasons, plants and small land fauna are prominent in the economy of hunter-gatherer people (Binford 1980, Torrence 1983). The investment of considerable time and energy in the production and hafting of backed artefacts to hunting and fighting spears may well have been undertaken as much in relation to the social value of these items and tasks as strictly utilitarian need (Kuskie and Kamminga 2000);

  - *Problematic to identify through archaeological evidence.*

- Casual and opportunistic reduction of stone or selection of flakes to meet requirements on an 'as needed' basis was a widespread occurrence. Suitable flakes (sometimes after being retouched) were used in domestic tasks such as fashioning or repairing a wooden implement, while a higher proportion of flaked products were simply discarded at the site of their manufacture, without use;

  - *Presence of artefacts relating to non-specific knapping in a wide variety of contexts in the landscape, with only a low proportion of items possessing retouch or use-wear.*

- A low frequency of items was knapped using bipolar technology. This technology is largely, although not entirely, restricted to the reduction of quartz. It is likely that this technology was employed to reduce small pebbles rather than as strategy to prolong the life-use of an existing core;

  - *Presence of artefacts associated with bipolar knapping in relatively low frequencies. and mostly on quartz.*

- Exposed sandstone bedrock was used for the shaping and/or maintenance of ground-edge hatchets. This activity may have been occasional and incidental to transitory movement or short-term occupation during the course of the normal daily hunting/gathering round, rather than a result of special purpose visits;

  - *Sites with grinding grooves may exhibit evidence consistent with transitory movement or hunting/gathering without camping. Sites with extensive evidence of grinding and limited evidence of other activities will not occur.*

- Special tools such as worimi cleavers and grindstones were large and heavy and may have been deliberately cached at base camps in readiness for return visits;

  - *Presence of specific tools (such as grindstones) at sites where evidence is present for repeated episodes of occupation. These tools and other types may be present in multiple numbers.*

- Plant foods were processed and consumed at temporary hunter/gatherer encampments, at family base camps, and where larger groups of people congregated, as well as at the sites of procurement. A range of plant resources was available in the locality. Women played a much larger role than men in obtaining and processing plant foods. Macrozamia kernels were collected and prepared by a special process to remove toxins, involving soaking the kernels for up to two weeks, then pounding and roasting them (David 1890, Backhouse in Gunson 1974);

- *Evidence relating to food processing and consumption occurring in association with evidence representative of these site types.*
- *A suitable environmental context for the plants to exist, implements for pounding and a possible focus of this evidence around freshwater sources where the Macrozamia toxins could be extracted.*

- Ferns may have been a staple of the local diet, along with the bulbs and roots of other wetland plants. It is uncertain if swamp fern (*Blechnum* spp.) and/or bracken fern (*Pteridum esculentum*) was consumed. Notwithstanding its importance in the Maori diet, bracken fern, which grows in wet sclerophyll forest, is less likely since it is not reported ethnohistorically as being a preferred food (Beth Gott, *pers. comm.*). Worimi cleavers were used to pound the starch-rich rhizomes of bracken fern and/or swamp fern and possibly the roots of other plants obtained from the wetlands (Kamminga 1974). Eloueras may have been used for extracting the perennial herb cumbungi (*Typha australis*), abundant in the freshwater parts of wetlands, or less likely tall spike rush (*Eleocharis sphacelata*). Fibre from the cumbungi rhizome and leaf was used for string, baskets and nets (Beth Gott, *pers. comm.*);

  - *Suitable environmental context for the presence of such plants, presence of tools used in cutting and pounding them (eg. worimi cleavers, eloueras, pebble choppers) and presence of products made from plants (eg. string, baskets and nets).*

- Animal foods were processed and consumed at temporary hunter/gatherer encampments, at family base camps, and where larger groups of people congregated, as well as at the sites of procurement. Men hunted for larger game, while women played a key role in obtaining smaller game. Hunting was a planned and coordinated event, as evidenced by the capture of kangaroos 'enclosed in a nook or bend in the river or some other obstacle' (Dawson 1830:119) and the use of fire to burn-off and promote fresh grass growth (Sokoloff 1978a-b). Birds, such as swans and ducks, were caught around the swamps and lakes (Threlkeld in Gunson 1974); and

  - *Evidence for consumption and processing of animal food located in association with evidence interpreted as representing these occupation types.*

- Fish were obtained by several methods. People used bark canoes on lakes, wetlands and rivers, and angled with shell fish-hooks and line. Fish were also obtained directly by spearing, while standing in a canoe or on a bank, or by the use of hand nets to form a circle in shallow waters and enclose the fish. Another group activity was the planting of sprigs of bushes in streams, with some men frightening the fish towards an opening, at which point others stood ready with nets to catch them (Threlkeld in Gunson 1974). Eels were also caught in an organised manner, with small trenches being dug in the swamps, particularly near the narrower outlet (David and Etheridge 1890:46). Managing resources by the use of facilities (eg. fish and eel traps) and fire (encourages new grass to attract kangaroos or manage macrozamias) were additional strategies aimed at increasing the reliability and productivity of food resources (Rich 1995:4).

  - *Presence of fish remains in deposits, shell fish-hooks and fish-hook files, fishing line, fishing spears and hand nets. Fish traps would be expected in suitable watercourses (although only stone arrangements would survive), however evidence for procurement of eels is not expected within an archaeological context.*

Notwithstanding arguments largely underpinned by material culture, environmental factors and resource variation, in relation to other locations, Boot (2002:334) observes that *"the economy was secondary to the sacred and that, ultimately, the primary purpose of economic life was to sustain the sacred worlds" of the Aboriginal people*.

The majority of the MPO SSD Area is located in contexts that do not conform to primary or secondary resource zones, distant from higher order water sources. According to the modelling above, occupation of these portions of the SSD Area is therefore more likely to have related to hunting and gathering activities, along with transitory movement between locations and procurement of stone materials, and have been of a generally low intensity.

However, small portions of the SSD Area are located adjacent to the Hunter River, within what could be classified as a primary resource zone under the model. Within this area, additional types of occupation involving encampments, events of longer duration or involving larger numbers of people may have occurred.

In general terms, the nature of occupation at each site identified within the SSD Area could represent a variety of circumstances (Kuskie and Kamminga 2000), for example:

- Transitory movement;
- Hunting and/or gathering (without camping);
- Camping by small hunting and/or gathering parties;
- Nuclear/extended family base camp;
- Community base camp;
- Larger congregation of groups; or
- Ceremonial activity.

The evidence could represent a single episode or multiple episodes of one or more of the above types of occupations. The episodes of occupations could have occurred at different times over the entire time-span of occupation in the region. Each episode of occupation could also have been for a different duration of time.

Unless the archaeological evidence for individual activity events is readily identifiable, it can be highly problematic to determine the types of occupation, number of episodes, and times and duration represented by evidence at a particular site. Suitable circumstances are rarely present in open sites, due to mixing of evidence by post-depositional processes and the superimpositioning of evidence caused by repeated episodes of occupation.

Listed below is a brief description of the nature of each type of occupation and the material circumstances or evidence that may relate to such occupation types within the present investigation area and surrounding locality (Kuskie and Kamminga 2000):

Transitory movement:

- May occur when an individual or group of people are moving between base camps, or from a campsite to resources or a ceremonial or other special purpose site;
- Duration would be less than a day and probably less than a few hours;
- Total numbers of people would generally be relatively low;
- Could occur on most topographical units and classes of slope, but possibly more frequently on ridge and spur crests and along watercourses and valley flats;
- Could occur in any type of rock shelter (ie. any size, topographic location, or distance from water source) where shelter may be sought from inclement weather;
- Proximity to potable water was probably not important;
- Proximity to food resources was probably not important;

- Evidence may represent accidental discard, repair of hunting or gathering equipment, children's play or knapping activity;
- Quantity and density of evidence and range of artefact and stone types are expected to be low, consistent with 'background discard', with few discrete activity areas unless repeated episodes have occurred causing superimpositioning;

Hunting and/or gathering (without camping):

- May occur when an individual, or more likely a small group of closely related people, engage in hunting activities (more likely to be a party of men) or gathering activities (more likely to be women and children);
- Duration would be less than a day, with people returning to a base to sleep;
- Total numbers of people would be relatively small;
- Would be expected to occur where food resources were available, which for different foods may be a seasonal or annual occurrence;
- Could occur in any type of rock shelter (ie. any size, topographic location, or distance from water source) particularly where shelter may be sought from inclement weather;
- Proximity to potable water was probably not important;
- Evidence may represent accidental discard, loss during use, repair of hunting or gathering equipment, children's play or knapping activity;
- Quantity and density of evidence and range of artefact and stone types are expected to be low, consistent with 'background discard', possibly with a few discrete activity areas. Loss or discard of specific tool types may be a useful indicator (particularly items with use-wear/residue that are not in association with evidence of their manufacture or maintenance). Repeated visits to particularly food sources may cause a build up of unrelated evidence over a period of time in a specific location. Small shell middens, representing single meal events, would be expected close to shellfish sources, with potentially a build up of temporally unrelated meal events from repeated visits over time.

Camping by small hunting and/or gathering parties:

- May occur when an individual, or more likely a small group of closely related people, that are engaged in hunting activities (more likely to be a party of men) or gathering activities (more likely to involve women and children) camp overnight near the resource being procured;
- Duration would be one or several days;
- Total numbers of people would be relatively small;
- Would be expected to occur close to where food resources were available, which for different foods may be a seasonal or annual occurrence;
- Would be expected to occur in open contexts and also in rock shelters, particularly relatively larger rock shelters with sufficient habitable floor areas for activities and sleeping. Aspect of the rock shelter towards the rising or setting sun may have been important;
- Proximity to potable water probably was important, although temporary sources may have been sufficient;
- Evidence may represent accidental discard, repair of hunting or gathering equipment, children's play, stone knapping activity, food processing or temporary camp fires;

- Quantity and density of evidence and range of artefact and stone types are expected to be low to moderate, and distinguishable from 'background discard', with at least several activity areas. A reasonably broad range of artefact and stone types may be discarded (although not as diverse as expected at a base camp). Shell middens representing single or multiple meal events would be expected close to shellfish sources. Items likely to be cached for future use at a base camp, or unlikely to be carried around on a hunting or gathering journey (eg. grindstones) are not expected to occur. Time-consuming activities like construction and use of ovens or heat treatment pits are also unlikely to have occurred

Nuclear/extended family base camp:

- May occur when a single nuclear family or extended family camps together;
- Duration uncertain but probably dependent on availability of food resources and potable water in the locality;
- Total numbers of people would be relatively small;
- In open sites, probably situated on level or very gently inclined ground, close to potable water and close to food resources;
- In rock shelters, probably occurred in shelters close to potable water (with greater potential near higher order sources), close to food resources and only in large rock shelters with sufficient habitable floor area for activities and sleeping. Aspect of the rock shelter towards the rising or setting sun may have been important;
- The encampment area in open contexts may consist of a several small huts, dispersed in a spatial patterning depending on the social mix of the people;
- Evidence may represent accidental discard, repair of equipment, children's play, stone knapping activity, food processing, campfires, heat treatment of silcrete and manufacturing of tools;
- Quantity and density of evidence and range of artefact and stone types discarded are expected to be high. Shell middens representing multiple meal events would be expected close to shellfish sources, including middens of larger size. Repeated visits to a camp site or stays of long duration may cause a build-up of evidence over a period of time in a specific location. Items are likely to have been cached for future use at a base camp. Specific artefact indicators include grindstones. Evidence of casual knapping and production of tools is expected to be common. The significant differences with a temporary hunter/gatherer's camp include the possible presence of features such as heat treatment pits and ovens, broader range of artefact and stone types, presence of specific artefact indicators, higher density of evidence (reflecting more activity and longer duration of use) and relatively common evidence for the production of tools.

Community base camp:

- May occur when a number of nuclear families camp together;
- Duration uncertain but probably dependent on availability of food resources;
- Total numbers of people could be relatively large (30+);
- Probably situated on level or very gently inclined ground in open contexts;
- Probably situated close to potable water;
- Probably situated close to food resources (eg. conjunction of wetlands and forest zones);
- The encampment area may exceed 100 m^2 and consist of a number of individual groups and huts, dispersed in a spatial patterning depending on the social mix of the groups;

- Quantity and density of evidence and range of artefact and stone types discarded are expected to be high. Large shell middens representing multiple meal events would be expected close to shellfish sources. Spatially discrete evidence of individual camp sites would be expected (if the resulting evidence has not been affected by disturbance or superimpositioning). Items may not have been cached for future use. Specific artefact indicators include grindstones, relatively more common evidence of food processing and possibly ochre. Evidence of casual knapping and production of tools is expected to be common. However, features such as heat treatment pits may not occur.

Larger congregation of groups:

- May occur in relation to special events (eg. major ceremonies) or when a particularly desirable food was most abundant;
- Probably of short duration (eg. less than two weeks) but potentially for longer duration (eg. up to several months);
- Total numbers of people could vary widely, but possibly exceed 100;
- Probably situated on level or very gently inclined ground in open contexts;
- Probably situated close to potable water;
- Probably situated close to food resources;
- A large area or areas of encampments would be expected, possibly covering hundreds of square metres or more;
- Spatially discrete evidence of individual camp sites would be expected (if the resulting evidence has not been affected by disturbance or superimpositioning);
- Quantity and density of evidence and range of artefact and stone types discarded are expected to be high (similar to community base camp). Substantial shell middens representing multiple, contemporaneous meal events would be expected close to shellfish sources. Items may not have been cached for future use. Specific artefact indicators include grindstones, relatively more common evidence of food processing and possibly ochre, and possibly evidence of processing uncommon foods for which the gathering may be related (eg. whale). Evidence of casual knapping and production of tools is expected to be common. However, features such as heat treatment pits may not occur.

Ceremonial activity:

- May occur when a group of people gathers at a particular location to perform a ceremony;
- Evidence may be present of ceremonial site features such as earthen rings or stone arrangements, or ochre;
- Evidence of large encampments (similar to that expected for the 'larger congregation of groups' listed below) may be present nearby, including in locations with an aspect towards the ceremonial site.

To distinguish whether single or multiple episodes of occupation occurred, several factors can be examined. Multiple episodes of occupation would tend to exhibit superimpositioning of artefact evidence (eg. mix of unrelated stone materials and artefact types and activity areas). However, identifying which items belong to which activity events can be problematical. Also, distinguishing the effects of post-depositional disturbance from cultural superimpositioning is problematical (Koettig 1994). The analysis of distributions of stone material and artefact types is of benefit in some circumstances. In a stratified deposit, multiple episodes of occupation would be indicated by evidence in different stratigraphic layers, particularly discrete activity areas to exclude the possibility that items have moved vertically through the deposit by bioturbation.

Another indicator of multiple occupation is an expectation of a relatively higher density of artefacts within a locality (combined with superimpositioning as discussed above). Larger areas of occupation may also result, when occupations only partially overlap (eg. Camilli 1989).

Identification of different episodes of occupation over time would require *in situ* deposits with stratified or vertically separated evidence of activity events and datable material (eg. charcoal or midden deposits).

Identification of the duration of individual episodes of occupation may prove very difficult. Where a single episode of occupation has occurred, a greater quantity of items, frequency of discrete activity events and size of contemporaneous shell midden deposit may be indicative of a longer stay.

Identification of the types of occupations when multiple episodes have occurred may prove highly problematical. Unless specific artefact indicators for different types of occupation are present, the superimpositioning of evidence from unrelated occupations (eg. transitory movement over a nuclear family base camp) may not be possible to determine.

3.5 Predictive Model of Site Location

A predictive model of site location is constructed to identify areas of archaeological sensitivity (ie. locations where there is a potential of archaeological evidence occurring), so it can be used as a basis for the planning and management of Aboriginal heritage. Predictive modelling involves reviewing existing literature to determine basic patterns of site distribution. These patterns are then modified according to the specific environment of the investigation area to form a predictive model of site location. A sampling strategy is employed to test the predictive model and the results of the survey used to confirm, refute or modify aspects of the model.

The use of land systems and environmental factors in predictive modelling is based upon the assumption that they provided distinctive sets of constraints that influenced Aboriginal land use patterns. Following from this is the expectation that land use patterns may differ between each zone, because of differing environmental constraints, and that this may result in the physical manifestation of different spatial distributions and forms of archaeological evidence (Hall and Lomax 1993:26).

The predictive model is based on information from the following sources:

- Identification of land systems and landform units;
- Previous archaeological surveys conducted within the region;
- Distribution of recorded sites and known site density;
- Traditional Aboriginal land use patterns; and
- Known importance of any parts of the investigation area to the local Aboriginal community.

In certain circumstances, such as where low surface visibility or recent sediment deposition precludes effective assessment of the potential archaeological resource, sub-surface testing may be a viable alternative for further testing the predictive model and assessing the investigation area.

The following is a brief description of the site types that may occur within Zone B (areas in which additional SSD primary disturbance is proposed) and Zone C (areas in which potential minor future disturbance may occur subject to detailed infrastructure engineering design) of the SSD Area[16].

Artefact Scatters:

In most archaeological contexts, an artefact scatter has been defined as either the presence of two or more stone artefacts within 50 or 100 metres of each other, or a concentration of artefacts at a higher density than surrounding low density 'background scatter'. The definition of an artefact scatter 'site' is often an arbitrary one, which can offer benefits from a heritage management perspective but is a source of theoretical/analytical debate for heritage practitioners.

Due to the nature of the underlying evidence, its identification only within exposures created by erosion or disturbance, and the limited suitability of existing definitions, artefact scatter sites are defined within this study as the presence of one or more stone artefacts within a *survey area* (Kuskie 2000). The boundaries of the site are defined by the boundaries of the visible extent of artefacts within the survey area. The survey areas are based on discrete, repeated *environmental contexts* termed *archaeological terrain units* (eg. a particular combination of landform unit and class of slope). It is generally assumed that there is a similar probability for comparable evidence to occur elsewhere within the same survey area. As such, while the visible site boundaries are defined by the extent of visible evidence (consistent with the definition of an Aboriginal object under the *National Parks & Wildlife Act 1974*), across the entire survey area in which a site is identified there exists a *potential resource* of comparable evidence.

An artefact scatter may consist of surface material only, which has been exposed by erosion, or it more typically involves a sub-surface deposit of varying depth. Other features may be present within artefact scatter sites, including hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent the evidence of:

- Camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of stone or wooden tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Hunting or gathering events;
- Other events spatially separated from a camp site (eg. tool production or maintenance); or
- Transitory movement through the landscape.

The detection of artefact scatters depends upon conditions of surface visibility and ground disturbance and whether recent sediment deposition has occurred (Dean-Jones and Mitchell 1993). Vegetation cover and deposition of sediments generally obscures artefact scatter sites and prevents their detection during surface surveys. High levels of ground disturbance can also obscure or remove evidence of a site.

[16] Existing approved areas where SSD impacts would not comprise additional primary disturbance (Zone A) do not require further assessment.

Artefact scatters are a common site type in the Central Lowlands region and the existing MPO. There is potential for stone artefact evidence to occur in Zones B and C of the SSD Area wherever A unit soil is present, apart from in areas which have been substantially impacted by recent land-use (ie. areas in which the A unit or upper soil horizon has been totally removed).

Most of Zones B and C of the SSD Area are located in contexts that do not conform to primary or secondary resource zones. In general, the artefact evidence in these areas may typically be of a low to very low density consistent with background discard.

However, a higher artefact density and potentially deposits of research significance may occur where more focused occupation (eg. encampments, or events of longer duration or involving larger numbers of people) and/or repeated Aboriginal occupation has occurred (ie. in primary or secondary resource zones). These contexts may comprise areas of low gradient close to the Hunter River (primary resource zone), including alluvial flats, areas in proximity of previous channels, and elevated areas adjacent to the floodplain[17], along with a minor portion (700 metre length) of a fourth order un-named drainage north of Dorset Road. Elsewhere within the SSD Area drainages are typically lower order and gradients are often moderate, areas which are unlikely to represent secondary resource zones.

Bora/Ceremonial Sites:

Bora grounds are a type of ceremonial site associated with initiation ceremonies. They are usually made of two circular depressions in the earth, sometimes edged with stone. Bora grounds can occur on soft sediments in river valleys and elsewhere, although occasionally they are located on high, rocky ground where they may be associated with stone arrangements. Pearson (1981:104-105) identified that the location of ceremonial sites appears to have related to a desire to isolate the site in a secret or seldom visited location.

The potential for bora/ceremonial sites within Zones B and C of the SSD Area is assessed as being very low, due in part to the recent history of land use, but cannot be discounted.

Burials:

Human remains tended to be placed in hollow trees, caves or sand deposits. The location of burials may once have been marked by carved trees (eg. Etheridge 1918:85), although subsequent tree clearing and the long passage of time since the disruption of this practice has rendered these markers extremely rare. Usually burials are only identified when eroding out of sand deposits or creek banks, or when disturbed by development. The probability of detecting burials during archaeological fieldwork is extremely low (albeit refer to Kuskie {2000} nearby at Mount Arthur North for one exception).

The potential for burial sites to occur within Zones B and C of the SSD Area is assessed as being very low, but cannot be discounted. Kuskie (2000; refer also to Donlon and Kuskie 2003) located a traditional Aboriginal burial along Whites Creek at Mount Arthur North, five kilometres south-east of the SSD Area. A burial was recorded by Evans and Morris of the National Parks and Wildlife Service (AHIMS #37-2-540) on a former alluvial terrace within 100 metres of the active Hunter River floodplain (cited in Umwelt 2006). Dyall (1981) reported information obtained in 1980 from a local resident, Mr W. H. Reynolds of 'Plashett', that 'King Jerry's Tribe' buried their dead in a sand-spit on the edge of the Hunter River (at the junction with Saltwater Creek) around AMG grid reference 302100:6405200, 20 kilometres south-east of the MPO.

[17] Where gradient is low, these areas would be generally consistent with the Rich (1995) "Land units adjacent to the Hunter flats".

Carved Trees:

Carved trees were still relatively common in NSW in the early 20th century (Etheridge 1918, refer also to Mathews 1894). They were commonly used as markers for ceremonial or symbolic areas, including burials.

Both vegetation removal, natural attrition (for example, bush fire) and the long passage of time since the practice of tree carving was prevalent have rendered this site type rare. Given these factors and the extent of recent land use impacts, the potential for carved trees to occur within Zones B and C of the SSD Area is considered to be very low, but cannot be discounted where mature native trees remain.

The traditional cultural practice of removing bark from or scarring trees was very unlikely to have been practised in the immediate investigation area from the late 1840s (at the very latest), and most likely ceased a number of years earlier (noting that the Cox family had occupied land in the immediate vicinity of the MPO prior to 1838, and that by 1841 around 215 people resided in the adjacent town of Muswellbrook) (Kuskie 2019).

Cultural Significant Sites or Areas:

Sites of cultural significance to Aboriginal people (excluding the contemporary significance attached to the other site types listed here) can take three forms:

- Sites or places associated with ceremonies, spiritual/mythological beliefs and traditional knowledge, which date from the pre-contact period and have persisted until the present time;
- Sites or places associated with historical associations, which date from the post-contact period and are remembered by people today (for example, plant and animal resource use areas and known camp sites); and
- Sites or places of contemporary significance (apart from those areas for which Aboriginal objects remain, which are discussed elsewhere here), for which the significance has been acquired in recent times.

Although these sites do not qualify as Aboriginal objects under the *National Parks and Wildlife Act 1974* they can be declared as Aboriginal places under the Act.

Mythological sites, or other sites of traditional, historical or contemporary significance to Aboriginal people, can occur in any location. Often natural landscape features may be related to important mythological stories. Consultation with the local Aboriginal community is essential to identify the presence of such cultural significant sites (refer to Section 6 and Appendices 6 and 9). Physical evidence of historical contact can occur in the form of artefacts manufactured from introduced materials (eg. porcelain or glass).

Grinding Grooves:

Grinding grooves are typically elongated narrow depressions in soft rocks (particularly sedimentary) and are generally associated with watercourses. The depressions are created by the shaping and sharpening of ground-edge hatchets and grinding of seeds and processing of other plant matter and animal foods.

Grinding grooves are typically located in sedimentary bedrock along watercourses, but also occur on open surfaces of sandstone in other contexts (eg. simple slopes) and on smaller sandstone slabs or surfaces in rock shelters. The potential for grinding groove sites to occur is assessed as low, given the minimal presence of suitable geology (exposed sandstone bedrock) within Zones B and C of the SSD Area.

Quarry Sites:

In a general sense, a lithic quarry or stone procurement site is the location of an exploited stone source (Hiscock and Mitchell 1993:32). In a more specific sense, a lithic quarry refers to outcrops of bedrock where there is clear evidence of procurement activity such as pits, discarded hammerstones and large deposits of primary flaking debris. Sites will only be located where exposures of a stone type suitable for use in artefact manufacture occurs.

Geological mapping of the investigation area and previous experience (eg. Rich 1993, Kuskie 2000) indicates that materials suitable for stone knapping have potential to be exposed within Zones B and C of the SSD Area, including silcrete and tuff. As such, the potential for lithic quarry evidence within Zones B and C of the SSD Area is assessed as low to moderate. Silcrete quarry sites have been identified nearby at Bengalla (Rich 1993).

Rock Shelters With Art, Deposits and/or Grinding Grooves:

Rock shelters include rock overhangs, shelters or caves which were used by Aboriginal people. Rock shelter sites may contain artefacts, deposits and/or rock art or grinding grooves. These sites will only occur where suitable geological formations are present and may occur in isolated rock formations (eg. boulders) or along more extensive rock formations (eg. cliffs).

Very few rock shelter sites have been identified in the immediate locality, primarily as suitable rock formations tend to be limited in occurrence in the Central Lowlands. Several rock shelters have been reported in the Mangoola area, where more substantial conglomerate/sandstone rock formations occur in elevated terrain, including plateaux (Umwelt 2006). In contrast, numerous rock shelter sites or PADs occur in the nearby Southern Ranges, where extensive sandstone rock formations are present.

Rock shelter sites can vary widely in terms of contents (eg. containing artefacts, potential deposits, painted art and/or grinding grooves), location (eg. topographic context, distance to watercourse, size/order of watercourse and aspect), nature (eg. size of shelter, extent of habitable floor area, number and types of artefacts and stone materials) and research potential (eg. depth and extent of potential artefact deposits).

Stone artefacts would be the primary form of expected evidence within any rock shelters, in anything from very low to very high densities. Charcoal from fireplaces/hearths may also occur, as may bones and/or shell from fauna used by Aboriginal people for subsistence (or incorporated into the deposit by other means, such as animal activity or natural processes), or art. The presence of other evidence, such as the remains of wooden implements, cannot be discounted, even though their occurrence has rarely been documented in the region.

Sandstone/conglomerate rock formations that may host rock shelter sites are not present within Zones B and C of the SSD Area, as such the potential for rock shelter sites is assessed as negligible.

Scarred Trees:

Scarred trees contain scars caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Mature trees, remnants of stands of the original vegetation, have the potential to contain scars.

However, both vegetation removal, natural attrition (for example, bush fire) and the long passage of time since these practices were prevalent have rendered this site type rare. Given these factors and the extent of recent land use impacts, the potential for scarred trees to occur within Zones B and C of the SSD Area is considered to be very low, but cannot be discounted where mature native trees remain.

Reassessments by South East Archaeology and Dr Mark Burns of Global Soil Systems of 37 previously reported scarred trees within the MPO have resulted in the conclusion that scars on all 37 trees originated from non-Aboriginal causes (refer to Section 3.2.1). The traditional cultural practice of removing bark from trees was very unlikely to have been practised in the immediate investigation area from the late 1840s (at the very latest), and most likely ceased a number of years earlier (noting that the Cox family had occupied land in the immediate vicinity of the MPO prior to 1838, and that by 1841 around 215 people resided in the adjacent town of Muswellbrook) (Kuskie 2019).

Stone Arrangements:

Stone arrangements include circles, mounds, lines or other patterns of stone arranged by Aboriginal people. Some were associated with bora grounds or ceremonial sites and others with mythological or sacred sites.

Hill tops and ridge crests which contain stone outcrops or surface stone, and have been subject to minimal impacts from recent land use practices, are potential locations for stone arrangements. Although suitable topographic contexts and geology occurs within Zones B and C of the SSD Area, given the general rarity of this form of evidence and recent land use history, the potential for stone arrangement sites to occur is assessed as very low.

Waterhole/wells:

Waterhole/wells are natural depressions in boulders or exposed bedrock, known as pan-holes or gnamma holes, which retain water, and as such may have represented a source utilised by Aboriginal people. There is no direct evidence of Aboriginal working or use of these waterholes.

The potential for these features to occur within Zones B and C of the SSD Area is assessed as very low, but cannot be discounted.

4. METHODOLOGY

During the initial stages of the investigation, research was conducted into the environmental, cultural and archaeological background of the SSD Area (refer to Sections 2 and 3).

As outlined in Section 3.1, searches were undertaken of the Heritage NSW (former OEH / BCD) AHIMS and other relevant heritage registers and planning instruments.

A comprehensive review was undertaken that involved comparison of numerous existing overlapping databases previously maintained by RTCA and MACH, heritage reports, site records and the AHIMS searches to develop a single MPO Aboriginal Site Database (initially Revision 1, 14 November 2018). As the SSD investigation progressed, the Site Database Area and MPO Aboriginal Site Database were further updated and refined (currently Revision 4, 21 November 2019). The MPO Open Site Shape Layer was created as a supplement to the Aboriginal Site Database to show the true spatial extent of open artefact sites (where relevant reported information was available) that have not yet been subject to salvage and/or impacts.

MACH is seeking approval for a Development Consent under Division 4.1 of Part 4, 'State Significant Development', of the EP&A Act for the Mount Pleasant Optimisation Project. The Planning Secretary's Environmental Assessment Requirements for the Project were issued on 17 February 2020 (refer to Section 1.2 and Appendix 2). In order to address these requirements, the investigation involved reference to the guidelines and policies specifically mentioned in the SEARs that are relevant to Aboriginal heritage and this Aboriginal Cultural Heritage Impact Assessment:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy (DECCW 2010c);
- Aboriginal Site Recording Forms; and
- The Aboriginal Heritage Information Management System (AHIMS).

Several guidelines and policies noted in the SEARs in relation to the broader issue of 'Heritage' either relate only to non-indigenous (historical) heritage, which is not addressed in this ACHAR (refer to separate report by Extent Heritage), or were not of relevance to this Aboriginal Cultural Heritage Assessment (for example, a Care Agreement or an ASIRF were not required as test excavations were not undertaken; the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* {DECCW 2010a} is not relevant as a more detailed assessment has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* {DECCW 2010b}; and the *Hunter Regional Environmental Plan 1989 {Heritage}* has been repealed).

Consultation between MACH and the Aboriginal community has been ongoing since MACH purchased the MPO. In relation to this SSD Project, the initial notification of the proposed Project and registrations of interest were conducted by MACH between May and July 2017 (refer to Section 6 and Appendix 6). A total of 88 organisations and individuals were identified as Registered Aboriginal Parties (RAPs) for the SSD Project (Regal *et al* 2017).

Specific ongoing consultation with the Aboriginal community for the SSD Project has been conducted by MACH, with assistance from their technical advisors and South East Archaeology, and is outlined in Section 6 and Appendix 6.

To supplement the cultural heritage investigation, further assessment of Aboriginal cultural values was undertaken by a social anthropologist (Susan Dale Donaldson of Environmental and Cultural Services) as discussed in Section 6 and Appendix 6, with a specific report on cultural values incorporated in Appendix 9.

A draft methodology for the Aboriginal Cultural Heritage Assessment for the SSD Project (dated 7 October 2019) was forwarded to all RAPs and was subsequently finalised on 12 November 2019 without the requirement for any amendments. The methodology was implemented, including through conduct of the field survey of Zones B3 and B4 of the investigation area.

The RAPs were invited to attend a meeting on 5 November 2019 at which details of the SSD Project and proposed methodology were presented and queries addressed by the Project team.

Field inspection of Zones B3 and B4 of the SSD Area was undertaken on 13 and 14 November 2019 by qualified and experienced archaeologists from South East Archaeology (Peter Kuskie and Corey O'Driscoll), accompanied on both days by representatives of the RAPs selected and arranged by MACH (David Horton of Gomery Cultural Consultants and Leanne Kirkman of Hunter Valley Aboriginal Corporation). Staff of MACH (Chloe Annandale and Chris Gilmore) also assisted with property access and other logistical matters during the field inspection.

MACH invited all RAPs to attend an online information session to discuss the survey results, cultural values and draft Aboriginal Cultural Heritage Assessment report (refer to Section 6). Further on-site meetings and inspections were not possible due to Covid-19 restrictions, although were not requested by any RAPs.

As discussed in Section 1, with respect to Aboriginal cultural heritage the SSD application would involve an administrative change, whereby management of identified and potential heritage will transition from the currently applicable AHIP system (under Section 90 of the NP&W Act) to a revised AHMP (subsequent to any Part 4 Division 1 SSD Approval), which would provide an exemption to Section 90 of the NP&W Act.

As detailed in Section 3, extensive heritage survey coverage has already been achieved across the SSD Area, including across almost all areas in which additional primary disturbance is proposed under the SSD Project (refer to Figures 4 and 5 and Section 3). Over 1,900 Aboriginal heritage sites have been recorded within the MPO Aboriginal Site Database Area, many of which have already been subject to heritage salvage and/or approved impacts (refer to Figure 3 and Section 3). Three currently approved AHIPs cover much of the SSD Area (refer to Figure 5).

For the purposes of this assessment, the SSD Area was therefore subdivided into a number of Zones, including:

A) *Existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance.*

B) *Areas in which additional SSD primary disturbance is proposed* (refer to Figure 6). These areas can be subdivided further as follows:

B1) Subject to previous heritage survey and covered by an AHIP.
B2) Subject to previous heritage survey, but not covered by an AHIP.
B3) Not subject to previous heritage survey, but covered by an AHIP.
B4) Not subject to previous heritage survey and not covered by an AHIP.

C) *Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design.*

As the primary purpose of this assessment was to address the *additional or altered impacts* of the Mount Pleasant Optimisation Project on Aboriginal heritage (compared to the existing approved impacts), the focus of the field investigation and assessment comprised Zone B, the areas where additional primary disturbance is proposed from the SSD Project (refer to Figure 7).

However, almost all of Zone B has previously been subject to heritage survey (refer to Section 3.2.1). These surveys supported the granting by the OEH (now Heritage NSW) of the existing AHIPs, which cover most (but not all) of the Zone B additional primary disturbance areas. Additional field survey of these areas (Zones B1, B2 and B3) in relation to the SSD Project was not considered to be warranted, although for completeness, survey would occur within Zone B3 which is covered by existing AHIPs but has not been previously surveyed.

Additional field survey of Zone A in relation to the SSD Project was not considered to be warranted, as these are existing approved areas in which the SSD Project does not comprise additional primary disturbance. These areas have almost entirely been subject to heritage survey and are largely covered by existing AHIPs.

Additional field survey of Zone C in relation to the SSD Project was not considered to be warranted at present, as minimal impacts are proposed and these have not yet been subject to detailed design (ie. the precise locations of any potential impact areas are not currently known, for example, for any alternative alignment of the Northern Link Road). Any such potential impact areas are likely to be minor in extent and can be satisfactorily addressed subsequent to SSD approval through the inclusion of appropriate requirements (specifying the need for heritage survey and procedures for managing any identified Aboriginal heritage evidence) in the revised AHMP (refer to Sections 10 and 11).

Excluding the additional primary disturbance areas that have already been subject to heritage surveys (Zones B1 and B2), the only areas requiring field survey during the present assessment were those in which previous heritage survey had not occurred and an AHIP had not been issued (Zone B4), and for completeness, Zone B3.

Zone B4 comprises part of the proposed Northern Link Road Alignment, an area of approximately 14 hectares. Zone B3 is also located along the Northern Link Road Alignment, and comprises an area of approximately 8.4 hectares.

These areas were subject to heritage survey as a component of this SSD Project on 13 and 14 November 2019. Of the total Zone B3 and B4 area requiring survey of 22.4 hectares, survey coverage was achieved across 8.6 hectares and property access restrictions prevented access to the remaining 13.8 hectares (recommendations to address this are presented in Section 11).

In addition to the survey of Zone B3 and B4, selected Aboriginal sites and areas within Zones A, B1, B2 and C were also visited with the RAPs to ensure that they were fully informed about the nature of the Mount Pleasant Optimisation Project.

The Zones B3 and B4 survey investigation area was divided into particular combinations of environmental variables that are assumed to relate to Aboriginal usage of the area. These *archaeological terrain units* or *environmental contexts* were defined on the basis of landform element and class of slope (following McDonald *et al* 1984). They are discrete, recurring areas of land for which it is assumed that the Aboriginal land use and resultant heritage evidence in one location may be extrapolated to other similar locations. Therefore *survey areas* were defined as the individual environmental context that is bounded on all sides by different environmental contexts (Kuskie 2000).

Detailed recording of the archaeological *survey areas* was made on survey recording forms, including environmental variables and heritage resources identified or potentially present. Each *survey area* was assigned a unique reference code after the SSD initials (refer to survey coverage database in Table 6 and mapping in Figure 50).

Within each *survey area*, the areas inspected on foot correspond to the Heritage NSW (DECCW 2010b) definition of *survey units*. The *survey units* typically comprised general transects through grassy rural land, or coverage of and separate recording of specific exposure types, such as erosion scours. Data for each *survey unit* was recorded separately on the survey area recording forms and representative photographs of survey units and survey areas were taken and are included in Appendix 3 where relevant and informative (refer also to site photographs in Appendix 5).

For the purposes of the analysis, *survey unit* data from each *survey area* are combined (refer to Table 6) and data from each survey area can be combined with comparable survey areas to analyse coverage and artefact density with respect to environmental variables such as landform element and slope (refer to Table 7). For a thorough discussion of the rationale for use of the individual artefact as the basic unit of analysis, including the problems with open artefact site definitions due to exposure/obscurement issues, and the margins of error, variables and constraints associated with the data collection procedures and analysis, refer to the comprehensive discussion in Kuskie (2000) and Sections 3.5 and 5.3 of this report.

The general survey procedure involved participants inspecting each survey area by working together as a single team, comprising two archaeologists and two Aboriginal community representatives. The survey teams were equipped with high resolution mapping of the investigation area, with one metre contours, a 100 metre MGA grid and an aerial photograph underlay. Along with the use of hand-held Global Positioning System (GPS) units (generally accurate to within five metres), these features assisted with defining survey areas and survey units and accurately establishing the location of Aboriginal sites and marking the above onto the detailed base mapping (refer to Figures 50 and 51 and Appendix 5).

Within each survey area:

- Inspection was made widely for the obtrusive site types, such as rock shelters with deposit and/or art, grinding grooves and scarred trees; and
- Inspection was also made widely for stone artefacts and other cultural evidence, focusing on areas with ground surface visibility.

Aboriginal heritage site recording forms for each identified site were completed. Spatially separate locations of heritage evidence were recorded as separate site loci named after the MTP sequence of numbers (ie. MTP-1741 to MTP-1747). Detailed descriptions of all newly identified sites and the re-recording of a portion of one previously recorded site are presented in Appendix 5.

As required under Section 89A of the *National Parks and Wildlife Act 1974*, Aboriginal Site Recording Forms have been completed for all new or updated site recordings conducted during this assessment and lodged with the Heritage NSW AHIMS.

Stone artefacts were recorded on a lithic item recording form, including details about provenance, stone material type, artefact type, size class, cortex and other relevant attributes (refer to details for each site in Appendix 5 and a summary in Table 8).

During the survey and throughout the consultation process, including the subsequent cultural values assessment undertaken by Susan Donaldson (refer to Section 6 and Appendix 9), Aboriginal stakeholders were also asked of their knowledge of any areas of cultural significance within the SSD Area, for example:

- Sites or places associated with ceremonies, spiritual/mythological beliefs and traditional knowledge, which date from the pre-contact period and have persisted until the present time;
- Sites or places associated with historical associations, which date from the post-contact period and are remembered by people today (for example, plant and animal resource use areas and known camp sites); and
- Sites or places of contemporary significance (apart from those areas for which Aboriginal objects remain, which are discussed above), for which the significance has been acquired in recent times.

The results of the investigation are presented in Section 5. Photographs of the identified sites are presented in Appendix 5 and additional photographs of survey areas and the general investigation area are presented in Appendix 3.

An abbreviated version of the revised MPO Aboriginal Site Database is presented as Appendix 7, including comments on the management actions applied to individual Aboriginal sites to date, the proposed management strategies for sites that have not been salvaged and/or impacted, and any changes arising in connection with the SSD Project.

As noted in Section 9.1.1, the assessment of the *current status* of known Aboriginal sites within the SSD Area (ie. the state of existing impacts under the current approval) is current for the date of the MACH supplied aerial photograph of 29 June 2019. The rapid progress of works for the approved MPO mean that in the intervening period of time since the photograph date, the current status of some Aboriginal sites as listed in Appendix 7 and within this report may have changed. However, the management strategy, level of impacts and level of consequent impacts (refer to Section 9 and Appendix 7) for these sites would not change.

Table 6: SSD Zones B3 and B4 survey - archaeological survey coverage.

Survey Area	Landform Element	Slope	Distance to Water (metres)	Vegetation	Land Surface	Exposure Type (Horizon)	Erosional/ Depositional	Total Sample Area (m²)	Surface Visibility (%)	Detection Limiting Factors	Archaeological Visibility %	Ground Disturbance	Effective Survey Coverage (m²)	# of Artefacts (open sites)	Artefact Density/m² of Effective Survey Coverage	Comments	Survey Unit Area (m2)
SSD1	simple slope	gentle	<50	1	1, 4, 5	A/B	E/D	7,200	20	1, 3	20%	mod-high	1,440	1	<0.001	Mt Pleasant SSD Zones B3 and B4 survey 13 November 2019; tree plantation adjacent to Dorset Road; irrigation, concrete pipes buried; mostly low potential; road reserve highly impacted - cut, fill, bitumen, powerlines - negligible potential	12,820
SSD2	drainage depression	level-very gentle	<50	1, 2	1, 3	A/B	E/D	7,200	15	1, 2, 3	15%	low-mod	1,080	20	0.018	Mt Pleasant SSD Zones B3 and B4 survey 13 November 2019; drainage and associated flats; old bridge across channel and well; dam, drains excavated; sandstone in creek channel mainly boulders and only exposed in historical times; thin A unit; erosion and cattle impacts; abundant exposures but few visible artefacts; moderate to high potential for sub-surface deposit	33,500
SSD3	simple slope	moderate	>50	1, 2	1, 4	A/B	E	4,200	50	1	50%	mod	2,100	1	<0.001	Mt Pleasant SSD Zones B3 and B4 survey 13 November 2019; pastoral use, erosion impacts; low grass	14,840
SSD4	simple slope	moderate	<50	1	4	A/B	E	720	15	1	15%	mod	108	0	-	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use; grassy; low potential	2,446
SSD5	drainage depression	moderate	<50	1	4	A/B	E	600	10	1	10%	mod	60	0	-	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use; grassy; low potential	1,638
SSD6	simple slope	moderate	<50	1	1, 4	A/B	E	2,640	15	1	15%	mod	396	1	0.002	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use; low potential; unable to relocate Site MP24, isolated artefact possibly outside of inspected corridor	6,064
SSD7	ridge crest	level-very gentle	>50	1	1, 4	A/B	E	560	30	1	30%	mod	168	0	-	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use; grassy	946
SSD8	simple slope	moderate	>50	1	1, 4	A/B	E	4,000	15	1	15%	mod	600	1	0.002	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use; grassy; several sandstone boulders	7,367
SSD9	drainage depression	gentle	<50	1	1, 4, 5	A/B	E/D	2,800	25	1	25%	mod	700	7	0.010	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use; erosion scours; unit comprises small proportion of drainage	3,613
SSD10	simple slope	moderate	<50	1	1, 4	A/B	E	1,200	10	1	10%	mod	120	1	0.008	Mt Pleasant SSD Zones B3 and B4 survey 14 November 2019; pastoral use	2,429

Vegetation - 1 = cleared/grass/crop; 2 = forest/bush/regrowth Land Surface - 1 = sheet erosion; 2 = gully erosion; 3 = stream bank erosion; 4 = vegetated; 5 = modified
Detection Limiting Factors - 1 = vegetation; 2 = leaf litter/gravel; 3 = sediment deposition; 4 = other

Table 7: Environmental contexts, class of slope and landform elements - summary of survey coverage and artefact density for SSD Zones B3 and B4 surveyed area.

Environmental Context	Total Area of Context (m^2)	% Context Comprises of Zones B3 and B4 Survey Investigation Area[A]	Total Area Surveyed (m^2)	% Surveyed of Context	Effective Survey Coverage Total (m^2)	% Effective Survey Coverage of Context	Total # Artefacts (open sites)	Artefact Density (# artefacts per m^2 effective survey coverage)
level-very gentle drainage depression	33,500	39.1%	7,200	21.5%	1,080	3.2%	20	0.018
gentle drainage depression	3,613	4.2%	2,800	77.5%	700	19.4%	7	0.010
moderate drainage depression	1,638	1.9%	600	36.6%	60	3.7%	0	-
gentle simple slope	12,820	15.0%	7,200	56.2%	1,440	11.2%	1	<0.001
moderate simple slope	33,146	38.7%	12,760	38.5%	3,324	10.0%	4	0.001
level-very gentle ridge crest	946	1.1%	560	59.2%	168	17.8%	0	-
Totals/Means	**85,663**	**100%**	**31,120**	**36.3%**	**6,772**	**7.9%**	**32**	**0.005**
Class of Slope								
level-very gentle	34,446	40.2%	7,760	22.5%	1,248	3.6%	20	0.016
gentle	16,433	19.2%	10,000	60.8%	2,140	13.0%	8	0.004
moderate	34,784	40.6%	13,360	38.4%	3,384	9.7%	4	0.001
Totals/Means	**85,663**	**100%**	**31,120**	**36.3%**	**6,772**	**7.9%**	**32**	**0.005**
Landform Element								
drainage depression	38,751	45.2%	10,600	27.4%	1,840	4.8%	27	0.015
simple slope	45,966	53.7%	19,960	43.4%	4,764	10.4%	5	0.001
ridge crest	946	1.1%	560	59.2%	168	17.8%	0	-
Totals/Means	**85,663**	**100%**	**31,120**	**36.3%**	**6,772**	**7.9%**	**32**	**0.005**

A: Areas subject to survey sampling in which access was available.

Table 8: Summary of stone artefacts recorded during the SSD Zones B3 and B4 heritage survey.

	Stone Material							
Lithic Item Type	acidic volcanic	breccia	chert	petrified wood	quartzite	silcrete	tuff	**Total**
bondi point - utilised							1	**1**
core	1					2	1	**4**
core fragment						2		**2**
flake	1		1	1		10	1	**14**
flake - distal	1		1			2	2	**6**
flake - medial						1		**1**
flake - proximal		1						**1**
hammerstone					1			**1**
lithic fragment						1		**1**
retouched flake						1		**1**
Total	**3**	**1**	**2**	**1**	**1**	**19**	**5**	**32**



Figure 50: SSD Zones B3 and B4 archaeological survey areas and Aboriginal sites (from west-above to east-below) (one kilometre MGA grid; one metre contours; aerial photograph courtesy MACH).

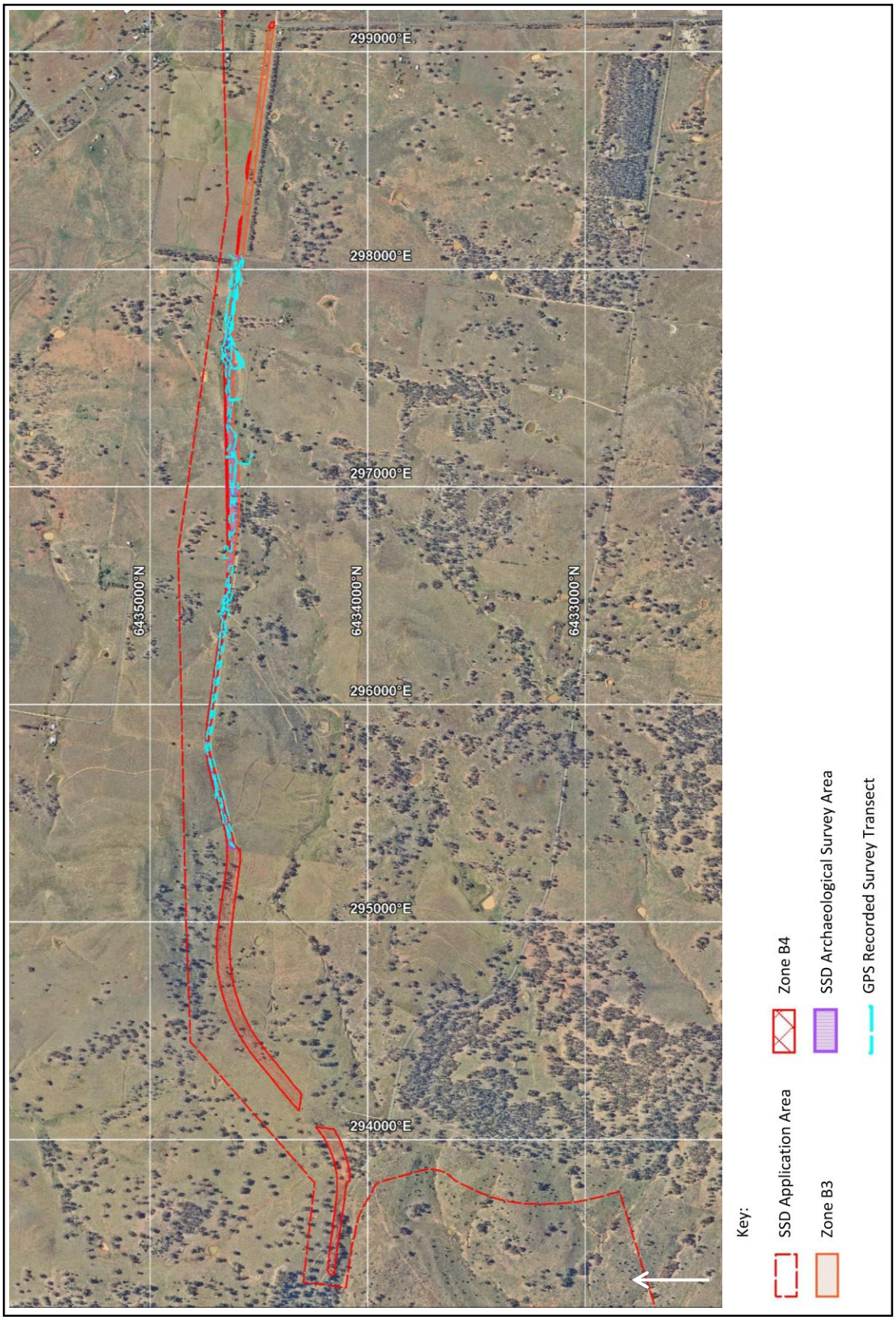


Figure 51: Approximate location of GPS recorded transects within the SSD Zones B3 and B4 archaeological survey area (one kilometre MGA grid; aerial photograph courtesy MACH).

5. RESULTS AND DISCUSSION

5.1 Survey Coverage

As discussed in Sections 3 and 4, extensive heritage survey coverage has already been achieved across the SSD Area, including across almost all areas in which additional primary disturbance is proposed under the SSD Project (refer to Figures 4 and 5).

As the primary purpose of this assessment was to address the *additional or altered impacts* of the Project on Aboriginal heritage (compared to the existing approved impacts), the focus of the field investigation and assessment was Zone B, the areas where additional primary disturbance is proposed from the SSD Project (refer to Figure 7). Excluding the additional primary disturbance areas that have already been subject to heritage surveys (Zones B1 and B2), the only areas requiring field survey during the present assessment were those in which previous heritage survey had not occurred and an AHIP had not been issued (Zone B4), and for completeness, Zone B3 (which is covered by existing AHIPs but had not been previously surveyed).

Zones B3 and B4 comprise part of the proposed Northern Link Road Alignment and total approximately 22.4 hectares in area. These areas were subject to heritage survey as a component of this SSD Project on 13 and 14 November 2019. Of the total Zone B3 and B4 area requiring survey, systematic archaeological survey coverage was achieved across 8.6 hectares, while property access restrictions prevented access to the remaining 13.8 hectares (recommendations to address this are presented in Section 11).

The heritage survey area of approximately 8.6 hectares was subdivided into a total of ten archaeological survey areas, each representing a specific combination of landform unit and class of slope (definitions as per McDonald *et al* 1984). Each archaeological survey area was inspected for Aboriginal heritage evidence. The environmental contexts surveyed included the three landform elements and three classes of slope present (refer to Tables 6 and 7).

The locations of the individual survey areas are marked on Figure 50. A summary of the survey coverage is presented in Table 7 for the combined environmental contexts and individual classes of slope and landform elements. Representative photographs of survey areas are included in Appendix 3 (refer also to site photographs in Appendix 5).

The total survey coverage (ground physically inspected for heritage evidence) equated to approximately 31,120 m^2, or 36% of the heritage survey area. As this coverage only refers to an area of several metres width directly inspected by each member of the survey team, the actual coverage for obtrusive site types (for example, scarred trees) was significantly greater than this, equating to approximately 100% of the heritage survey area. The total effective survey coverage (*visible* ground surface physically inspected with potential to host heritage evidence) equated to around 6,772 m^2, or 7.9% of the heritage survey area.

Conditions of surface visibility were generally low across the investigation area, due to the cover of grass. Archaeological visibility, the actual visible ground surface with potential for heritage evidence (accounts for factors such as ground disturbance and sediment deposition), was generally similar to surface visibility. Exposures tended to be present in erosion scours, along vehicle tracks and in other areas of recent ground disturbance (such as from animals and farm dams).

Very few mature native trees exist within the investigation area and where identified, these were inspected for evidence of Aboriginal scarring. Very few rock formations, comprising open surfaces and several boulders, occur within the investigation area and these were also inspected.

Notwithstanding the relatively low surface visibility, the level and nature of effective survey coverage is considered satisfactory enough to present an effective assessment of the Aboriginal heritage resources identified and potentially present within the Zones B3 and B4 investigation area. The coverage was comprehensive for obtrusive site types (for example, scarred trees and grinding grooves) but limited for the less obtrusive stone artefacts.

Nevertheless, in view of the potential impacts of the proposal, predictive modelling and results obtained from the sample of effective coverage, it is concluded that the survey provides a valid basis for formulating recommendations for the management of the identified and potential Aboriginal heritage resources within Zones B3 and B4.

5.2 Aboriginal Heritage Evidence

As outlined in Section 3.1, as a component of this SSD Project a single MPO Aboriginal Site Database was developed (initially Revision 1, 14 November 2018, applying to a Site Database Area of 59 square kilometres; refer to Figure 10).

Subsequent refinement of the SSD Application Area has necessitated a revision to the MPO Aboriginal Site Database (currently Revision 4, 21 November 2019) and Site Database Area to encompass those portions of the SSD Area outside of the initial area (refer to Figure 11). The Revision 4 MPO Aboriginal Site Database Area encompasses 63.4 square kilometres and includes the currently approved MPO, the SSD Application Area and the existing and provisional Aboriginal Heritage Conservation Areas A, B and C. Subsequent to SSD Approval, a further revision will be required to exclude the portions of the Revision 4 MPO Aboriginal Site Database Area that will no longer be within the approved SSD Area or Aboriginal Heritage Conservation Areas.

Over 1,900 heritage sites have been recorded within the MPO Aboriginal Site Database Area (refer to Figures 4 and 11 and Table 2), including approximately 1,909 open artefact sites[18] (albeit a number represent overlapping recordings) and 14 scarred trees. Many of the heritage sites that are situated in approved impact areas have already been subject to salvage (RPS 2018, Kuskie 2020) and/or subsequent impacts. Detailed mapping presenting the location of all known Aboriginal sites within the SSD Area is presented in Appendix 4. A list of all sites within the SSD Area is presented in Appendix 7.

The conduct of the present survey of Zones B3 and B4 has resulted in the identification of seven open artefact sites, labelled MTP-1741 to MTP-1747 (AHIMS #37-2-5944 to 37-2-5950). Detailed descriptions of all newly identified sites and the re-recording of a portion of one previously recorded site (#37-2-1447) are presented in Appendix 5. A summary of the site data is presented in Table 9.

[18] For the purposes of this assessment, "artefact scatters" and "isolated finds" are typically assessed together in recognition that the occurrence of a single artefact often represents the only visible portion of a larger artefact resource within a broader site/survey area.

Table 9: SSD Zones B3 and B4 survey – summary of Aboriginal site data.

Site Name	Landform Element	Slope	Distance to Water	Ground Disturbance	Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Archaeological Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts/m^2 of Effective Locus Area	Sub-Surface Deposit	Comments	MGA Reference
MTP-1741	simple slope	gentle	<50	mod-high	varies	varies	1	1	1	90%	90%	0.9	1	1.111	possible	site located immediately north of fence bordering Dorset Road's northern side; small area of basal slope near watercourse; almost moderate slope; moderate-high disturbance from adjacent Dorset Road reserve, fence, vegetation removal, pastoral use and erosion; low potential	297660: 6434630
37-2-1447	drainage depression	level-very gentle	<50	mod	varies	varies	160	60	9600	30%	30%	2880	20	0.007	probable	site previously recorded by Ruig as 'Kayuga 1996 13/1' in 1996 over much broader area, with 66 artefacts (approximately 170 x 140 metres); this inspection and re-recording confined to SSD Zones B3 and B4, 160 x 60 metre area; drainage, flat, basal slope; grass, thistles; moderate disturbance from vegetation removal, erosion, pastoral use, contour drain, trough, tanks and ants nests; high potential for sub-surface deposit, possibly moderate research potential; Rich's (1995) site #37-2-1488 actually situated south of Dorset Road, not in location of reported site grid reference	297139: 6434643
MTP-1742	simple slope	moderate	>50	mod	varies	varies	1	1	1	80%	80%	0.8	1	1.25	unlikely	site located 40 metres north of Dorset Road, north-east of sharp bend, near regrowth trees; disturbance from vegetation removal, pastoral use and erosion; low potential	296714: 6434643
MTP-1743	simple slope	moderate	>50	mod	varies	varies	1	1	1	50%	50%	0.5	1	2	unlikely	artefact located immediately north of road reserve fence, 35 metres south-east of isolated trees; thin A unit soil over clay; low potential; grass; moderate disturbance from vegetation removal, erosion, pastoral use and adjacent fence; artefact indicates primary silcrete source nearby	295527: 6434666
MTP-1744	simple slope	moderate	<50	mod	varies	varies	1	1	1	20%	20%	0.2	1	5	unlikely	site located 6 metres north of fence of road reserve; shallow A unit soil; grass; moderate disturbance from vegetation removal, erosion and pastoral use; low potential	296197: 6434688
MTP-1745	drainage depression	gentle	<50	mod	varies	varies	1	1	1	50%	50%	0.5	1	2	possible	site located 17 metres north of fence of road reserve, immediately south-east of dam and south of drainage; grassy; moderate disturbance from vegetation removal, erosion and pastoral use; low potential	296332: 6434677
MTP-1746	drainage depression	gentle	<50	mod	varies	varies	90	20	1800	50%	50%	900	6	0.007	possible	site located immediately north of road reserve in erosion scours among regrowth trees; grass; minimal A unit soil; very low density; moderate disturbance from vegetation removal, erosion and pastoral use; relatively low potential; large grey/orange silcrete cobble 300 x 200 x 180mm present indicating material source but no clear evidence of platform or flake removals	296442: 6434653
MTP-1747	simple slope	moderate	>50	mod	varies	varies	1	1	1	50%	50%	0.5	1	2	unlikely	site located immediately north of fence bordering road's northern side near Dorset Road junction; grass; moderate disturbance from vegetation removal, erosion and pastoral use; low potential	296601: 6434629

The newly identified sites included six isolated artefacts and one artefact scatter. These sites were identified in exposures created by erosion or other ground disturbance, on simple slopes and in drainage depressions. Artefact numbers and densities were very low, notwithstanding typically moderate to high conditions of visibility in and around the site loci. The visible extent of evidence was typically confined to very small areas, apart from the previously recorded site #37-2-1447 (refer to Table 9 and Appendix 5).

A total of 32 stone artefacts were recorded during the survey (refer to Table 8 and Appendix 5). These artefacts may only represent a portion of the entire artefact resource that is present within the surveyed area, because the majority of evidence is likely to be currently obscured by vegetation and soil.

Contemporary cultural values associated with the SSD Area have been identified by the RAPs, largely during the course of previous studies (refer to Section 3) rather than specifically during the course of the present survey. Some of these values relate to physical objects, including items that qualify as *Aboriginal objects* as defined under the *National Parks and Wildlife Act 1974*. However, some relate to intangible values, associations or landscape features that do not qualify as *Aboriginal objects.* These include:

- In general terms, the use of subsistence or other resources, with comments about the presence of various native flora and fauna where observed. These comments have not been of a historical nature (ie. do not relate to plant and animal resource use areas known from the post-contact period) but rather have been general observations of the occurrence of particular species and their known traditional uses (eg. for food, medicine, tools, etc.) (refer to Sections 2 and 3 for further discussion of typically available resources and ethnohistorical observation of use); and

- In general terms, the traditional use of the area by Aboriginal people, and an ongoing cultural and spiritual connection to the land and resources of the SSD Area by the Wonnarua and Kamilaroi (Gomeroi) people. The cultural connectivity of landscapes and Aboriginal pathways through the wider central to upper Hunter Valley landscape have been noted.

In addition, archaeological sites, such as the artefact scatters identified within the investigation area, are of contemporary significance to the Aboriginal community, as they represent a tangible link with the traditional past and with the lifestyle and values of community ancestors (refer to Section 6).

In order to consult more widely with the Registered Aboriginal Parties about cultural knowledge and values potentially associated with the SSD Area, South East Archaeology engaged a social anthropologist (Susan Dale Donaldson of Environmental and Cultural Services) to undertake a supplementary assessment of Aboriginal cultural values. The results of this additional assessment are presented in Appendix 9 and discussed further in Section 6. The additional consultation and assessment was undertaken during the time period when the draft ACHA was in circulation with the RAPs for their review and comment.

The supplementary assessment of Aboriginal cultural values highlighted a number of cultural heritage themes associated with Mount Pleasant and the surrounding landscape including:

- The important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects;

- The historic resistance of Wonnarua ancestors to colonisation is valued by Wonnarua people today - the past acts are an integral part of contemporary Wonnarua cultural identity and form part of people's attachment to place;

- The customary right to care for and make decisions about one's traditional land is important to Wonnarua people today; and
- The ongoing cultural use of natural resources, including water, across the landscape is an important cultural practise for Wonnarua people today.

In general terms, the attachment of the Wonnarua and Kamilaroi (Gomeroi) people to the landscape and continuing strong cultural connections with the locality of the area is evident. As noted by Goulding (2002:63) land is a fundamental part of Aboriginal culture, and such cultural connections are integral to the health and wellbeing of Aboriginal people, although can be complex and are not always obvious to others.

The possibility cannot be excluded that further Aboriginal values or associations may exist within the locality of the investigation area that were not divulged by the persons consulted.

5.3 Discussion

The results of the investigation within Zones B3 and B4 are discussed below, including the potential integrity of the evidence, nature of the evidence and interpretations of the evidence.

5.3.1 Integrity of Evidence

The integrity of the identified sites and the remainder of the surveyed area can primarily be assessed for surface evidence only through examination of land use impacts. Controlled excavation enables integrity to be assessed through the horizontal and vertical distribution of artefacts and by conjoining items.

As discussed in Section 2, the modern landscape of the Zones B3 and B4 investigation area (and the broader SSD Area) reflects a sequence of non-Aboriginal occupation over the past two centuries which have resulted in widespread impacts, including:

- The widespread clearing of native vegetation;
- Pastoral activities (including the grazing of sheep and cattle, excavation of farm dams, provision of watering troughs, windmills/wells and stockyards, residences, survey markers, fencing, establishment of pasture improved grasses and erosion control measures such as contour banks);
- Erosion of hill-slopes and watercourses and the subsequent deposition of soils on the middle and lower portions of drainage lines (subsequent to the removal of native vegetation and introduction of hoofed animals);
- Agricultural activities (cultivation of crops, particularly close to the Hunter River);
- Provision of essential services and transport (formed roads and unformed vehicle tracks, electricity transmission line easements, telecommunications cables, water and sewage);
- Recreational activities; and
- Mining.

Levels of ground disturbance were recorded during the survey, after McDonald *et al* (1984) (Table 6). The survey areas typically exhibited moderate levels of ground disturbance, with widespread effects from vegetation removal, pastoral use and erosion. By virtue of their identification in exposures created by erosion or other ground disturbance, the identified open artefact sites also exhibited moderate to high levels of disturbance.

Nevertheless, extensive excavations nearby (eg. Kuskie and Clarke 2004) indicate that typically in open site deposits in texture-contrast soils in the Central Lowlands there has been vertical mixing of deposit through bioturbation, but often reasonable horizontal integrity of evidence. It is noted that, in terms of the research potential of deposits, the impacts of post-depositional processes can also be identified and controlled for (Koettig 1989, Kuskie and Kamminga 2000).

5.3.2 Lithic Assemblage

A total of 32 stone artefacts were recorded in detail during the present survey (refer to summary in Table 8 and data for each site in Appendix 5).

The small combined surface artefact assemblage is dominated by the stone material silcrete (19 artefacts or 59% of the combined assemblage), with lower frequencies of other materials including tuff (16%), acidic volcanics (three items), chert (two items) and single quartite, petrified wood and breccia items.

The combined surface assemblage is dominated by flakes (44%), flake portions (25%), cores (12.5%), core fragments (6%) and lithic fragments (3%), items that represent debris from non-specific stone knapping. The remainder of the assemblage comprised a retouched flake, a hammerstone and a utilised bondi point, tools that can provide more information for interpretation, as they allow for greater assessment of on-site activities and traditional Aboriginal culture.

Silcrete:

Silcrete is a brittle, intensely indurate rock composed mainly of quartz clasts cemented by a matrix which may be well-crystallized quartz, cryptocrystalline quartz or amorphous (opaline) silica (Langford-Smith 1978:3). The texture of silcrete reflects that of the host rock and clasts may range in size from very fine grains to boulders.

Silcrete is produced by an absolute accumulation of silica, which can be precipitated from solution by evaporation, cooling, the neutralisation of strongly alkaline solutions, reaction with cations, adsorption by solids and the life-processes of organisms (Summerfield 1983:76). In weathered profiles, downward percolation of silica released through bedrock weathering and clay mineral authigenesis, together with water-table fluctuations, are suitable conditions for formation (Summerfield 1983:80).

Silcrete is normally grey in colour, but can be whitish, red, brown or yellow. It shatters readily into sharp, angular pieces with a conchoidal fracture and newly broken rocks have a semi-vitreous sheen (Langford-Smith 1978:4). Silcrete was an attractive material to the local Aboriginal people because of its flaking properties and availability. Flakes have sharp, reasonably durable edges and implements made from the stone were used for a variety of tasks, including woodworking and spear barbs.

Direct sources of silcrete in the form of cobbles were identified within the investigation area during the heritage survey, in site MTP-1746, and a large silcrete core in site MTP-1743 was also indicative of a nearby source (refer to Appendix 5). Silcrete has also been identified nearby within the MPO Heritage Conservation Area A by Scarp (2010a), adjacent to the SSD Area at Bengalla (Rich 1993) and nearby at Mount Arthur North (Kuskie 2000). Hence, relatively local colluvial and/or alluvial gravel sources are inferred for the silcrete items within the investigation area.

Tuff:

Indurated rhyolitic tuff has been commonly mis-identified by archaeologists as 'indurated mudstone' and continues to be inaccurately identified as such. Previously it was often mis-identified as chert (eg. Moore 1969, 1970, 1981). This variation (between tuff and mudstone) is perhaps not as great an issue as it appears, because more important to archaeologists (and presumably the Aboriginal knappers) is the grain size and properties of the stone for flaking. The mis-classification of the material with chert is, however, more problematic as there are also low proportions of chert present within Hunter Valley assemblages (Kuskie and Clarke 2004).

As a component of the Black Hill study on the F3 Freeway (now M1 Motorway) (Kuskie and Kamminga 2000), x-ray diffraction analysis, thin-section analysis and hand-inspection tests were undertaken by the Geology Departments of the Australian National University and University of Newcastle to accurately determine the nature of the material tuff. This research identified that this stone is accurately identified as indurated rhyolitic tuff, and while in some respects it is similar to chert, there are significant differences in mineral composition and mechanical properties.

For the tuff artefacts retrieved during the excavations at Black Hill near Maitland (Kuskie and Kamminga 2000), texture was observed to range from glossy or very fine grained to granular. However, in general, the composition of this stone in the artefact assemblages is uniformly fine grained.

Tuff samples examined by Kuskie and Kamminga (2000) from the lower and upper Hunter Valley are rhyolitic in chemical composition (quartz and potassium-feldspar, occasionally with layer silicate or goethite).

In its pristine, unweathered form, rhyolitic tuff is grey to green in colour (a function of grain size, not a reference to individual grains, which can be of a variety of colours). However, tuff is porous enough for the diffusion of iron bearing solution, with iron precipitating out to give a yellow, brown, red or orange colour. Variations to the surface colouration can also result from weathering processes (for example, bleaching to white commonly occurs in porous sandy sediments) (Kuskie and Clarke 2004).

Much of the tuff found in Aboriginal sites in the central to upper Hunter Valley is red, yellow, brown or orange in colour. This colouration is attributable to groundwater charged with iron compounds (in particular goethite and haematite) diffusing through the porous tuff and precipitating out in micropores (Prof. K. Diessel *pers. comm.* 1996). Purple colour may be caused by the trace element cobalt, while black, which has been noted to penetrate up to two millimetres and merge with the grey matrix, may be from manganese oxide which is often associated with iron in groundwater (Prof. K. Diessel *pers. comm.* 1996). Penetration of black colour along cracks may be due to organic matter such as carbon, or oxidisation of graphite. Heating from bushfires or dehydration due to weathering may transform yellow goethite to red haematite (Kuskie and Kamminga 2000).

Indurated rhyolitic tuff is a fine grained, isotropic stone formed from ash clouds ejected in explosive volcanic eruptions. The pyroclastic material can be fine ash grain (dust grain; <1/16 millimetre clast size) or coarse ash grain (<2 - 1/16 millimetre clast size) (Le Maitre 1989). Other types exist (eg. lapillus) but the consultant hasn't observed them in the Hunter Valley. The ash forms a pyroclastic deposit by settling to the ground or through ponded water (including peat swamps; Creech 2002).

The pyroclastic deposit, when it is mainly unconsolidated (tephra), can be fine ash (dust) for fine ash grain pyroclastic material, or coarse ash for coarse ash grain material. When the pyroclastic deposit is mainly consolidated (pyroclastic rock), the coarse ash grain forms coarse (ash) tuff, and the fine ash grain forms fine (ash) tuff (dust tuff) (Le Maitre 1989). The coarse and fine ash tuffs can be further subdivided on the basis of their fragmental composition. A lithic tuff would contain a predominance of rock fragments, a vitric tuff would contain a predominance of pumice and glass fragments, and a crystal tuff would contain a predominance of crystal fragments. These terms can also be further qualified by the use of other suitable prefixes, for example rhyolitic ash, air-fall tuff, lacustrine tuff and submarine tuff.

After burial, some tuff beds become indurated through a low-grade metamorphic process (probably involving pressure) in which the stone recrystallises to a more stable structure. In this sense, it would be accurate to describe tuff as a meta-volcanic. Part of the process may have entailed some precipitation of silica in groundwater before recrystallisation. In its hardest, most indurated form, tuff exhibits conchoidal fracturing and was therefore a suitable material for stone tool manufacturing.

Some tuff deposits show graded bedding, not unlike that of some sedimentary rocks. Lateral sorting also tends to occur, with coarser material settling closer to the vent and finer material further away (Press and Siever 1986).

In relation to tuff, the felsic (eg. rhyolitic) composition indicates rapid emptying of a zoned differentiated magma chamber with high gas pressure. Grain-size variation and sorting indicates fallout from a high eruption column. Massive to poorly bedded thick beds indicates single but fluctuating continuous gas blasts for several hours. Large volumes indicate high eruption columns (Fisher and Schmincke 1984).

In contrast, mudstone is a general term applied to rocks such as siltstone and claystone, composed of more than 50% clay and/or silt with grain sizes typically less than 1/16 millimetre, or in the case of claystone, less than 1/256 millimetre (Press and Siever 1986:74). Induration refers to hardening of the rock. The lithification (or hardening and compaction) of mudstones (siltstone and claystone) results in shale. Many muds and shales are mixed with other chemicals, giving individual shales different characteristics (Press and Siever 1986:308). Mudstones are similar in grainsize to shales but have no laminations (Nashar 1964). They vary in colour from grey to green, black and brown. 'Indurated mudstone', or shales, do not possess the fracture properties needed for flaking artefacts.

However, some rocks (tuffites) contain pyroclastic deposit and normal clastic (epiclastic - weathering and erosion of older volcanic rock) deposits. For example, coarse ash tuff can consolidate as tuffaceous sandstone, while fine ash tuff can consolidate as tuffaceous siltstone. Tuffaceous mudstone and shale can also form from fine ash tuff, but with a generally much smaller clast size (<1/256 millimetre). In all of these 'tuffaceous' stones, the amount of pyroclastic material can range from 75% to 25%, whereas in a 'pyroclastic' stone it is 100% to 75% (Le Maitre 1989). The x-ray diffraction results from Kuskie and Kamminga's (2000) Black Hill and Hunter River samples demonstrate that at least these samples are a pyroclastic rock (tuff), not a 'tuffaceous stone' and certainly not a 'mudstone' or 'chert'.

Waterworn and tabular cortex was present on several tuff artefacts. Volcanic tuffs occurs in widespread seams throughout the Hunter Valley (Diessel 1980:103; Creech 2002) and are occasionally exposed in drainage lines or in cliff faces, or the cobbles become worked into river gravels (eg. the Hunter River and its tributaries) where they represent a readily available source of the material. Direct sources of suitable quality tuff were not observed within the investigation area during the heritage survey.

It is inferred that tuff items discarded within the investigation area were procured from relatively local terrestrial outcrop, colluvial and alluvial sources (eg. the Hunter River and associated terrace deposits). As identified by Kuskie and Clarke (2004) at Mount Arthur North, procurement may have been a selective process, with cobbles tested for their quality, prior to selection of the better quality materials and transportation elsewhere for use. Considering the widespread availability of tuff in the upper Hunter Valley, it is more likely that the material was obtained during the course of the normal daily or seasonal round, rather than by way of special purpose trips to sources or by trade.

Flakes and Flake Portions:

A total of 14 whole flakes were identified in the surface assemblage (excluding other typological categories such as retouched flakes) (Table 8). Flakes include complete or substantially complete flakes which have technologically diagnostic features and a ventral (sometimes termed positive) surface, usually with evidence of hard indenter initiation, or occasionally bending initiation. This class of artefacts may represent:

- The fragmented debris of on-site knapping of primary flakes and microblades;
- Possibly backing retouch of implements; and
- A small proportion of sundry, other on-site fracture of siliceous stone, such as accidental breakage of implements.

Eight flake portions were identified in the surface assemblage. Flake portions include:

- *Distal* - the end of a flake (the opposite to that of the point of fracture origin on the ventral [or inside] surface);
- *Longitudinal* - a flake longitudinally fractured from its proximal to its distal end. The breakage may be slightly tangential but are mostly axial in orientation. Such breakages tend to occur during knapping (such as longitudinal cone splits) rather than through post-depositional processes;
- *Medial* - a mid portion of a flake, exhibiting more than one breakage and no platform or termination; and
- *Proximal* - the portion of a flake comprising the point of fracture origin on the ventral (or inside) surface.

As for flakes, these artefacts predominantly represent the fragmented debris of on-site knapping of primary flakes and microblades (debitage).

Cores and Core Fragments:

Four cores and two core fragments were identified. This group of artefacts probably represents on-site knapping to produce flakes, possibly including to an extent ones useful for making into microliths. The large silcrete core in site MTP-1743 and the large acidic volcanic core in site MTP-1745 are both indicative of relatively local sources of these stone materials.

Lithic Fragments:

A single lithic fragment was identified in the surface assemblage. These are flaked pieces of stone which lack sufficient morphological attributes to identify them as a flake (a positive scar) or a core (only negative flake scars), but which are inferred to derive from knapping.

The interpretive value of lithic fragments is primarily confined to the circumstantial evidence they provide regarding intensity of site use.

Backed Artefacts:

One utilised bondi point was identified, a tuff item in site #37-2-1447. Bondi points are a form of microlith often found in artefact scatter sites dating to the mid-late Holocene. While the function of these finely fashioned implements is not known with certainty, most archaeologists consider that they were used in armatures of hunting and fighting spears (Mulvaney and Kamminga 1999:235-36). Microliths may have served as barbs, or else as lacerators intended to disable an enemy or prey by causing haemorrhage. It is possible that different microlith types were designed to serve these different functions.

Alternative uses have been proposed for bondi points, including their use as cutting implements (Sokoloff 1977). Fullagar (*et al* 1994) has inferred from residues on a small sample of bondi points from the Hunter Valley that they served as multi-functional tools. However, the evidence for use in spear armatures is persuasive and it could easily account for the range of residues observed. Kamminga (pers. comm.) has suggested that the presence of plant residues on backed artefacts may relate to times when they were not in use and for example were stored in the ground or in vegetation. Alternatively, they may have resulted from their use as projectiles when the spear missed its animal target and lodged in vegetation.

Summarising the evidence for spear armatures (Kuskie and Kamminga 2000):

- The microliths are very small and often have very delicate shapes that are unsuitable for most tool-use activities;
- A use-wear study (Kamminga 1980) has suggested that most specimens in museum collections have not been used, but were lost during and after manufacture of batches of them, and that the occasional use-wear observed was at least consistent with spear armature use and inconsistent with a number of other possible activities;
- Traces of resin have been detected on excavated bondi points from the New England and Pilbara regions and the Hunter Valley (eg. Fullagar in Koettig 1994:48, McBryde 1985, Mulvaney and Kamminga 1999:236; Kuskie and Clarke 2004:498), suggesting that normally they were cemented onto a wooden shaft or handle;
- Australian microliths are directly comparable to microliths fixed onto spears and arrows preserved in Stone Age and Metal Age sites in Europe and Africa;
- The closest ethnographic analogue postulated for microliths is the barbing of the ‘death spear’ or 'dread spear', which was commonly used along the southern coasts of Australia for hunting and/or fighting (Mulvaney and Kamminga 1999:292-93). Small jagged fragments of stone (usually quartz) were embedded in series into a layer of resin (sometimes referred to as gum) smeared on the head of a single piece wooden shaft. In some cases, grooves were carved into the wooden shaft to accommodate the stone barbs, but this was not a universal practice. It is not known if the sharp flakes cemented onto these spears were ‘backed’ by careful knapping, but such a practice would have allowed them to be fixed in a groove incised into the spear shaft, or maximised adhesion of the resinous cement. The barbed point of death spears was about 15 to 30 centimetres long, with up to about 7 to 14 sharp stone flakes or fragments for single-sided armature and about 14 to 28 fragments for double-sided armature. For a spear armed with bondi points, the ranges may have varied from these figures; and

- Specimens and associated manufacturing debris are commonly found in large quantities at archaeological sites across southern Australia, indicating that large numbers were required, more so than any other formally shaped implement type, which is consistent with an interpretation of spear armatures.

Utilised/Retouched Items:

Apart from the utilised bondi point, a single retouched flake was identified, in site #37-2-1447. Retouched flakes are artefacts that have minimal analytical value, because the purpose of the retouch they exhibit is not known. Some may be associated with backed artefact production and some may represent the failed production of a backed artefact (for example, 'preforms' that may represent the initial backing retouch of an elongated flake that was then discarded as being unsuitable for further backing retouch and transformation into a microlith).

Hammerstone:

A single hammerstone was identified in the survey, in site #37-2-1447. Hammerstones were used to detach flakes from cores and to retouch tools. Typically hammerstones are large and possess a high proportion of waterworn cortex, like this item. The incidence and extent of cortex reflects the nature of these items (elongated pebbles), which were selected because of the suitability of the stone material and morphology for the intended task. Hammerstones typically exhibit pitting at one or both ends, evidence of their use as percussive instruments to flake pieces of stone ('cores').

5.3.3 Spatial Distribution and Site Interpretation

The identified open artefact evidence within Zones B3 and B4 (and the broader SSD Area) may only represent a fraction of the entire artefact resource that is present, because the majority of evidence is likely to be currently obscured by vegetation and/or soil.

Comprehensive studies (for example, Kuskie 2000, 2009, Kuskie and Clarke 2004, Kuskie and Kamminga 2000) demonstrate that artefacts occur in a widespread distribution across the landscape, with higher artefact densities, representing a greater focus of Aboriginal activity, tending to occur in primary and secondary resource zones than in other contexts (refer to Sections 3.2 and 3.4). Many major surveys in eastern Australia have identified a virtually continual distribution of artefacts across the landscape, but at varying densities (for example, Hall 1991, 1992, Hall and Lomax 1993, Kuskie 2000, 2009, Packard 1991, 1992). The results of large area surveys (including within Mount Pleasant: Anderson 2007, ERM Mitchell McCotter 1996, 1997b, HLA-Envirosciences 2007, McCardle 2007, Rich 1995, Roberts 2007, Scarp 2009, 2010a, 2010b, 2012 and 2015) and major excavation projects lend support to arguments that the landscape should be viewed as an archaeological continuum, in which 'sites' represent points where higher frequencies of activities have occurred (Foley 1981).

However, defining a 'site' is problematical, due to the manner in which the evidence is exposed and the nature of the underlying human behaviour that has created the evidence. Most evidence is exposed within areas of erosion or ground disturbance. Therefore, delineating the extent of an open artefact site is not realistically possible without extensive sub-surface testing. The recorded evidence has typically been affected by post-depositional processes to such an extent that definition of a *cultural site* may not be possible (a discrete, culturally defined unit beyond which cultural material is absent). At such locations where artefacts have been identified, unless the items can be demonstrated to be culturally and temporally associated, the evidence cannot be said to represent a *cultural site*. Instead, the evidence may reflect a number of different occupational events that are spatially superimposed or mixed by post-depositional processes, but are not temporally or culturally related.

In addition, the 'site' locations and boundaries would simply reflect the distribution and size of surface exposures. The definition of a 'site' is therefore an arbitrary one, which offers benefits in terms of planning and management, but does not necessarily reflect the underlying human behaviour that created the evidence (Dunnell and Dancey 1983).

Many survey assessments have used arbitrary site definitions such as 'two or more artefacts within 50 or 100 metres of each other' or 'concentrations of artefacts at a higher density than *background scatter*'. Neither concept is appropriate in a 'cultural landscape' approach. In recognition of the problems of 'site' definition as discussed above, the definition of an open artefact site 'as the presence of one or more stone artefacts within a *survey area*' is more appropriate (Kuskie 2000). The *survey area* will always equate to a discrete *environmental context* (a particular combination of landform element and class of slope), bounded by different environmental contexts. While the visible site locus boundaries may be defined by the extent of visible evidence, across the entire *survey area* in which a site is identified, there exists a *potential resource* of comparable evidence. This recognition of the potential resource overcomes the problem of the nature of exposure of evidence (ie. 'sites' simply equate to 'surface exposures').

The 'broad-area' approach is based on the assumption that different environmental contexts provided different sets of constraints to Aboriginal occupation, which resulted in different patterns of land use. Following from this is the expectation that land use patterns may differ between environmental contexts and that this may result in the physical manifestation of different spatial distributions and forms of archaeological evidence. It is assumed that if the specific environmental context is repeated elsewhere within the investigation area, that similar evidence would exist in both locations, reflecting the similar underlying behaviour.

Following from these issues, it is apparent that concentrations of artefacts may represent many different and unrelated episodes of occupation. Therefore, by focusing the analysis on individual artefacts, issues of 'intra-site' spatial context become less critical. It is possible to compare the frequency of individual artefact and stone material types (measured against a constant unit of area, such as a square metre of effective survey coverage or a cubic metre of excavated soil sieved) with environmental variables, in order to test and refine a predictive model.

The heritage survey area within Zones B3 and B4 was subdivided into six *environmental contexts* (Table 7). These are discrete, recurring areas of land for which it is assumed that the Aboriginal land use and resultant heritage evidence in one location (for example, one *survey area*) may be extrapolated to other similar locations (for example, another *survey area* within the same environmental context). *Environmental contexts* are defined on the basis of two environmental variables:

- Firstly, *landform element* (following the definitions of McDonald *et al* 1984) (for example, ridge crest, simple slope and drainage depression); and
- Secondly, *class of slope* (following McDonald *et al* 1984) (for example, level to very gently inclined slopes of less than 1°45´, and gently inclined slopes greater than 1°45´ and less than 5°45´).

Environmental contexts consist of all of the *survey areas* with a particular combination of landform element and slope (for example, five separate *survey areas* were combined to form the 'moderate simple slope' context). As each *survey area* is by definition part of a single *environmental context* (although a number of similar 'survey areas' can make up the total), it is possible to compare and analyse other environmental variables on a fine-scale between each survey area and on a broader-scale between each context.

However, in relation to the present Zones B3 and B4 survey investigation area, the inferences that can be made from this comparison are limited by the very small nature of the area surveyed and effective survey coverage and artefact samples. The artefact densities were very low across the investigation area (mean of 0.005 artefacts per square metre of effective survey coverage).

Artefact densities were highest in the drainage depression landform unit (0.015/m^2), compared with the simple slope unit (0.001/m^2) (Table 7). Artefact densities were highest in the level to very gentle gradient unit (0.016/m^2), compared with the gentle (0.004/m^2) and moderate units (0.001/m^2) (Table 7). In terms of environmental contexts (combinations of landform element and class of slope; refer to Table 7), the highest mean density of 0.018 artefacts per square metre of effective survey coverage occurred on the level to very gentle drainage depression unit, consistent with the results above. However, the results must be treated with caution due to the very small nature of the samples.

In general terms, the nature of occupation within the Zones B3 and B4 investigation area could represent a variety of circumstances as outlined in detail in Section 3.4. However, the inferences that can be made about the nature of occupation at the identified sites or elsewhere in the investigation area are limited by the small nature of the sample.

The evidence identified at the open artefact sites within the investigation area is consistent with background discard, manuport and artefact material which is insufficient either in number or in association with other material to suggest focused activity in a particular location (Rich 1993, Kuskie and Kamminga 2000).

The artefact evidence is inferred in part to have derived from multiple individual activities, in spatially separate areas. The evidence has clearly arisen from multiple episodes of occupation, which may have occurred at different times in a relatively short temporal period, or over the entire time span of human occupation of the locality. The duration of individual episodes of occupation is uncertain, but the absence of focused evidence, such as activity areas or encampments, indicates that each episode of occupation was brief. Controlled excavation and dating of cultural deposits may resolve this issue.

Although the vast majority of evidence represents non-specific stone flaking, evidence of loss or intentional discard of microliths and loss or discard of non-microlith tools is present. Evidence of the initial reduction of silcrete procured from nearby sources is present.

Much of the Zones B3 and B4 investigation area (and indeed, much of the SSD Area) comprises moderate gradients, distant from higher order watercourses, in which it is inferred (and supported by the survey results) that there is limited potential for evidence of focused occupation. These contexts do not conform to primary or secondary resource zones under the model of occupation outlined in Section 3.4. The survey results support predictions that the artefact evidence in these areas will typically be of a low to very low density consistent with background discard, and although a low frequency of activity areas (with consequent higher artefact density) may be present, will not represent focused occupation. Occupation of these areas is more likely to have related to hunting and gathering activities, along with transitory movement between locations and procurement of stone materials, and have been of a generally low intensity.

The un-named watercourse that traverses Dorset Road and drains eastward to the Hunter River at Kayuga becomes a fourth-order watercourse north of Dorset Road between sites #37-2-1447 and MTP-1741, in the vicinity of survey area SSD2 (refer to Figure 50). This small portion of the Zones B3 and B4 investigation area may comprise a secondary resource zone. Within this small area, comprising low gradient ground within close proximity of the fourth-order watercourse, the occupation model indicates that a higher artefact density and potentially deposits of research significance may occur, where more focused occupation (eg. encampments, or events of longer duration or involving larger numbers of people) and/or repeated Aboriginal occupation may have occurred (in addition to hunting and gathering and transitory movement). However it is noted that the identified surface artefact densities were low, and it is tentatively inferred that had significant, focused occupation occurred in this area, a higher number of artefacts would have been visible and identified in the numerous exposures (and at a higher density).

This area is, however, adjacent to and immediately north of Rich's (1995) 'Confluence of Catchments I and J' (refer to Figure 12) in which Rich reported the highest artefact densities in the MPO (65 and 61 artefacts/hectare of exposure, which is inferred to equate to 0.006 artefacts per square metre of effective survey coverage). Rich (1995) also noted a very high density of 1,063 artefacts/hectare of exposure (0.1 artefacts per square metre of effective survey coverage), which was attributed to the presence of microblade workshops or knapping floors, a variation in the nature of occupation compared to the remainder of the area (refer to Section 3.2.1). Nevertheless, while Rich's (1995) results indicate that this area may have had a relatively higher artefact density compared to the remainder of the MPO, in overall terms of the Central Lowlands, these densities are not particularly high.

Elsewhere in the SSD Area, small areas that may be classified as primary or secondary resource zones under the occupation model comprise areas of low gradient close to the Hunter River, including alluvial flats, areas in proximity of previous channels, and elevated areas adjacent to the floodplain.

However as noted above, the vast majority of the SSD Area is located in contexts that do not conform to primary or secondary resource zones, distant from higher order water sources. The evidence identified during the extensive surveys across the MPO (Anderson 2007, ERM Mitchell McCotter 1996, 1997b, HLA-Envirosciences 2007, McCardle 2007, Rich 1995, Roberts 2007, Scarp 2009, 2010a, 2010b, 2012 and 2015; refer to Section 3.2.1) is overwhelmingly of low density open artefact sites representative of background discard, with a low number of activity areas. The identified evidence across the MPO simply represents the 'windows of visibility' (created by erosion or other ground disturbance) into a resource that comprises a virtually continual distribution of artefacts across the landscape at varying densities, as discussed above.

5.3.4 Chronology

There is no reliable means of dating the surface evidence that has been identified within the Zones B3 and B4 investigation area (or indeed the broader SSD Area). Cultural evidence can be directly dated by radiometric or other means (eg. radiocarbon, thermoluminescence and optically stimulated thermo-luminescence dating), when samples of datable cultural material (eg. charcoal from a hearth) are retrieved from deposits through controlled excavation. This is not possible within the context of a surface survey.

However, typological evidence can be used to date artefacts in open artefact sites. Artefacts characteristic of the "Australian Small Tool Phase" occur within the investigation area. Items such as the bondi point in site #37-2-1447 have been reliably dated in rock shelter sites to around 5,000 years of age (Mulvaney and Kamminga 1999). The appearance of the "Small Tool Phase" in the Hunter Valley region is distinguished primarily by the production of microblades and microliths, but the dating of this is imprecise. Perhaps the best estimate for backed artefact proliferation in the region, based on the general pattern of radiocarbon dates for south-eastern Australia, is 3,500 or possibly 4,000 years Before Present (BP). At least this item, if not also the associated evidence, is inferred to date to within the last 4,000 - 5,000 years or so. Based on artefact typology, Rich (1995) also concluded that the evidence within the broader MPO related to the last 4,000 or 5,000 years.

Attempts to date open sites through description of technological attributes of artefact assemblages have also been undertaken (eg. Hiscock 1984, 1985, 1986). Hiscock (1985) identified three temporally distinct technological phases, based on analysis of attributes. However, the methods used by Hiscock have not been successfully replicated to date in open sites and are subject to significant constraints.

No items in the form of artefacts manufactured from introduced materials (eg. porcelain or glass) were identified during the SSD survey. However, historical evidence of Aboriginal people occupying the immediate vicinity of the investigation area in the early 1800s has been documented, and Rich (1995) reported a 'black glass retouched/utilised piece' from site IJ5 as evidence of an occupation event on the I-J confluence in the north-western portion of the MPO in the period around 1790-1830 AD (refer to Section 3).

A second type of indirect evidence on the age of the evidence can be the sedimentological context. The soils within the investigation area are duplex (texture contrast) soils, with a colluvial topsoil (A unit) overlying unrelated pedal clays formed by *in situ* weathering of bedrock (B unit or horizon). The A unit soils are generally assumed to form relatively quickly (Dean-Jones and Mitchell 1993) and date to the late Holocene. Unless the A horizons are thick (at least 0.3 metres) and incorporate *in situ* older, dateable deposits in their basal levels, it may not be possible stratigraphically to distinguish older artefact assemblages from mid to late Holocene assemblages. Of course, the possibility that artefacts survive in the modern A horizon soil which are older than the sedimentological age of the unit itself cannot be discounted, although would be very difficult to determine archaeologically (Hughes 2000).

The soils of almost the entire SSD Area (excluding the Hunter River floodplain) are duplex (texture contrast) soils, with a shallow A unit. Soils older than 5,000 years of age are not expected to occur within the duplex soils of the investigation area (Dean-Jones and Mitchell 1993, van de Graaff 1963, Hughes 2000). However, the presence of earlier sedimentological contexts within small portions of the SSD Area along the Hunter River, such as in terrace deposits or where colluvial deposits onlap the terraces, cannot be discounted.

5.3.5 Regional Context

The nature of the evidence from the Zones B3 and B4 investigation area and the conclusions derived from the present study can be compared with those from studies of other sites within both the immediate MPO locality and the broader central to upper Hunter Valley region (refer to Section 3.2). The primary purpose is to identify similarities and differences with other reported evidence, in order to provide a framework for interpreting representativeness.

However, as identified by Kuskie and Clarke (2004), there are numerous problems and constraints in comparing evidence, including different:

- Standards and quality of reporting;
- Unspecified or different methods of calculation (eg. artefact counts, density);
- Sampling strategies;
- Identification of stone materials;
- Identification of artefact types and classes (eg. nomenclature, criteria and consistency in artefact classification);
- Identification of backing retouch; and
- Identification of use-wear and residue.

Despite these constraints, a generally qualitative comparison is made below.

When comparing the Zones B3 and B4 results with those of Rich (1995) across the broader MPO area (refer to Section 3.2.1), a number of similarities can be identified, although the results must be treated with caution due to the very small nature of the Zones B3 and B4 sample. Overall artefact densities were very low in both samples, with a mean of 0.005 artefacts per square metre of effective survey coverage in Zones B3 and B4 compared with Rich's (1995) 36 artefacts per hectare of exposure (inferred to represent the equivalent of 0.004 artefacts per square metre of effective survey coverage). The relatively higher mean density of 0.018 artefacts per square metre of effective survey coverage on the level to very gentle drainage depression unit was also consistent with Rich's (1995) findings in the adjacent 'Confluence of Catchments I and J' of 0.006 artefacts up to 0.1 artefacts per square metre of effective survey coverage. Silcrete was the dominant stone material in both assemblages (59% of the Zones B3 and B4 sample compared with 58% of the broader MPO assemblage) with a lower frequency of tuff (16% compared with 28%). Both assemblages were dominated by flakes and similar evidence of non-specific stone knapping.

Notable similarities with other reported evidence in the MPO locality and in the region (refer to Section 3.2) include:

- Stone artefacts being the dominant form of Aboriginal heritage evidence;
- The identification of evidence only in locations exposed by erosion or ground disturbance;
- Comparable low numbers of artefacts within individual site loci;
- Low mean densities of artefacts;
- Focus of evidence on areas of level to gentle rather than moderate or steep gradient;
- Evidence occurring on similar landform elements;
- Similar range of stone material types, with dominance of silcrete and tuff;
- Similar range of artefact types, with dominance of flakes, flake portions and lithic fragments;
- Predominance of evidence relating to non-specific stone flaking, but also low frequencies of evidence relating to non-microlith and microlith tool use;
- Generally small size of artefacts; and
- Estimated late Holocene antiquity of the evidence.

In broad terms, the evidence from the Zones B3 and B4 investigation area (and indeed the broader SSD Area) is typical of that from the Central Lowlands of the Hunter Valley. No specific aspects of the evidence appear to be rare or unusual or not replicated elsewhere within a regional context.

5.3.6 Reassessment of Predictive Model and Occupation Model

Broader models of occupation for the Hunter Valley region have been proposed by Kuskie and Clarke (2004) for the central to upper valley and by Kuskie and Kamminga (2000) for the lower valley, based on ethnographic, ethnohistorical, oral historical and archaeological evidence (refer to Section 3.4).

The evidence identified during the Zones B3 and B4 survey is consistent with the occupation model for the locality. No evidence was identified that would lead to revisions to the model.

In view of the survey results, the predictive model of site location for the investigation area (refer to Section 3.5) was reassessed. This is relevant for Zone B (areas in which additional SSD primary disturbance is proposed) and Zone C (areas in which potential minor future disturbance may occur subject to detailed infrastructure engineering design) of the SSD Area[19], particularly areas (such as the minor survey gaps in Zones B3 and B4) that have not been sampled during the present or previous heritage surveys at the MPO, along with areas within the survey sampled zones that may not have been directly inspected (ie. not directly walked over).

The evidence identified during the Zones B3 and B4 survey is consistent with the predictive model. No evidence was identified that would lead to revisions to the predictive model. As such, the model outlined in Section 3.5 remains applicable for the SSD Area.

[19] Existing approved areas where SSD impacts would not comprise additional primary disturbance (Zone A) do not require further assessment.

6. ABORIGINAL CONSULTATION

The investigation area lies within the boundaries of the Wanaruah Local Aboriginal Land Council (LALC) and within an area of interest to other Aboriginal persons and organisations.

The Aboriginal heritage impact assessment has involved a comprehensive program of consultation with the Aboriginal community that complies with the policy requirements of Heritage NSW (former OEH / BCD) (refer to consultation database and relevant correspondence in Appendix 6). These requirements are specified in the Heritage NSW policy entitled *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010c).

The consultation requirements specified in the Heritage NSW *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010c) involve the procedures summarised below (numbering follows the Heritage NSW guidelines):

4.1.2) In order to identify Aboriginal people who may have an interest in the investigation area and hold knowledge relevant to determining the cultural significance of Aboriginal objects or places, providing written notification of the project to the relevant DECCW (now Heritage NSW) Environment, Protection and Regulation Group (EPRG) regional office, LALC, Local Council and Catchment Management Authority (CMA), along with the Registrar of Aboriginal Owners under the *Aboriginal Land Rights Act 1983* (Department of Aboriginal Affairs), National Native Title Tribunal and Native Title Services Corporation Ltd (NTSCORP)[20] including the name and contact details of the proponent, the location and a brief overview of the proposed project, and a request for advice on the contact details of such Aboriginal people;

4.1.3) Providing written notification of the project directly to those Aboriginal persons/organisations that were identified in Procedure 4.1.2, along with the LALC, and placing an advertisement in a local newspaper circulated in the general location of the investigation area, explaining the project and its location. The notification includes the name and contact details of the proponent, the location and a brief overview of the proposal, a statement about the purpose of the consultation, an invitation for Aboriginal people with cultural knowledge relevant to the investigation area to register an interest and advice on privacy matters[21], with a minimum 14 day response period[22];

4.1.6) Providing a record of the names of each Aboriginal person who registered an interest along with a copy of that registration and the notification letter in Procedure 4.1.3 to the relevant DECCW (now Heritage NSW) EPRG regional office and LALC within 28 days of the closing date for registrations of interest;

4.2 & 4.3) Providing detailed information about the project, heritage impact assessment process and proposed heritage assessment methodology to all registered Aboriginal parties identified in Procedure 4.1, with a minimum 28 day response period for comments;

[20] Procedures 4.1.2 - 4.1.7 are not required where an approved native title determination exists over the entire investigation area. In this event, consultation is only required with the native title holders.
[21] Procedure 4.1.5.
[22] Procedure 4.1.4.

4.2 & 4.3) Considering any input received from the registered parties in finalising the heritage assessment methodology and process, and implementing the methodology in consultation with the registered Aboriginal parties. This included seeking input on knowledge of Aboriginal objects and places of cultural value to Aboriginal people within the investigation area and views on potential management strategies, and incorporated a field inspection of the investigation area;

4.3 & 4.4) Preparation of a draft Aboriginal heritage impact assessment report and seeking the views of registered Aboriginal parties on cultural values and potential management strategies through provision of a copy of the draft report to the registered parties, with a minimum 28 day response period for comments; and

4.3 & 4.4) Preparation of a final Aboriginal heritage impact assessment report that incorporates the input of the registered Aboriginal parties and the proponent's response to each submission made on the draft report, and making the final report available to the registered Aboriginal parties and the relevant LALC.

All consultation with the Aboriginal community is documented in Appendices 6 and 9 of this report.

Consultation between MACH and the Aboriginal community has been ongoing since MACH purchased the MPO. In relation to this SSD Project, consultation has involved a two-stage process:

1) Stage 1, the initial notification of the proposed Project and registrations of interest, was undertaken by MACH with assistance from MACH's technical advisors and Niche Environment and Heritage between May and July 2017 (Regal *et al* 2017).

2) Stage 2 has been undertaken by MACH with assistance from MACH's technical advisors and South East Archaeology and Environmental and Cultural Services from October 2019 in relation to the SSD Project methodology, assessment and reporting.

Compliance with Procedure #4.1.2 of the Heritage NSW policy was achieved through correspondence forwarded to the relevant organisations by MACH on 4 May 2017. The following responses were received (refer to Appendix 6):

- Wanaruah LALC responded on 10 May 2017 advising that the LALC registers an interest in the Project and providing a list of Aboriginal organisations and individuals that should be contacted;
- The OEH (now Heritage NSW) responded on 11 May 2017 providing a list of Aboriginal organisations and individuals that should be contacted;
- Muswellbrook Shire Council responded on 24 May 2017 advising that the correspondence has been forwarded on to the Wanaruah LALC and Hunter Valley Aboriginal Corporation; and
- The Registrar of Aboriginal Owners responded on 26 May 2017 advising that there are no Registered Aboriginal Owners for this area but that the Wanaruah LALC should be contacted.

As a result of the OEH (now Heritage NSW) and Wanaruah LALC responses, Procedure #4.1.3 of the Heritage NSW consultation policy was then implemented by MACH writing on 29 May 2017 to the organisations/individuals named by the parties above (other than those previously registered for the MPO and deemed to be registered for this Project – refer below), with an invitation to register an interest by 16 June 2017 (refer to Appendix 6).

MACH also wrote on 29 May 2017 to all organisations/individuals previously registered for the MPO to inform them of the Project and advise that they are deemed to be registered for this Project (refer to Appendix 6).

Advertisements were also placed in the Public Notices sections of the Koori Mail and Singleton Argus on 31 May 2017, and the Muswellbrook Chronicle on 2 June 2017, with an invitation for interested parties to register an interest by 16 June 2017 (refer to Appendix 6).

At the conclusion of these registration of interest procedures, a total of 88 organisations and individuals were identified by MACH as Registered Aboriginal Parties (RAPs) for the SSD Project (Regal *et al* 2017), as listed here in Table 10.

Compliance with procedure #4.1.6 of the Heritage NSW consultation policy was achieved on 6 July 2017 by MACH providing copies of the required information to the OEH (now Heritage NSW) and Wanaruah LALC.

As per procedures 4.2 and 4.3 of the Heritage NSW consultation policy, detailed information about the Project and the proposed (draft) methodology prepared by South East Archaeology for this SSD Aboriginal Cultural Heritage Assessment were forwarded by MACH to all RAPs on 9 October 2019 with a request for comment by 11 November 2019 (refer to Table 10 and Appendix 6). An invitation to attend a meeting to discuss the Project on 5 November 2019 was also included within the correspondence.

Several responses to the invitation were received by MACH (from Hunter Valley Aboriginal Corporation and Ungooroo Aboriginal Corporation), but no comments were provided by any of the RAPs on the draft proposed methodology.

The meeting to discuss the SSD Project and proposed methodology was held on 5 November 2019 at the MACH office. Representatives of two of the 88 RAPs (Rhonda Griffiths from Hunter Valley Aboriginal Corporation and Alan Paget from Ungooroo Aboriginal Corporation) attended the meeting. No issues were raised with the draft proposed methodology. Rhonda Griffiths discussed the curation of artefacts and recommended for a proposed Keeping Place (refer to Table 11).

The draft methodology for the Aboriginal Cultural Heritage Assessment for the SSD Project (prepared by South East Archaeology and dated 7 October 2019), that was forwarded to all RAPs, was subsequently finalised without amendment on 12 November 2019 and implemented.

Field inspection of Zones B3 and B4 of the SSD Area was undertaken on 13 and 14 November 2019 by qualified and experienced archaeologists from South East Archaeology (Peter Kuskie and Corey O'Driscoll), accompanied on both days by representatives of the RAPs selected and arranged by MACH (David Horton of Gomery Cultural Consultants and Leanne Kirkman of Hunter Valley Aboriginal Corporation).

During the investigation the representatives did not disclose any specific knowledge of sites or places associated with ceremonies, spiritual/mythological beliefs or traditional knowledge, which date from the pre-contact period and have persisted until the present time, within the investigation area. The representatives also did not disclose any specific knowledge of sites or places associated with historical associations, which date from the post-contact period and are remembered by people today (for example, plant and animal resource use areas and known camp sites), within the investigation area.

Despite the measures put in place for sourcing and holding cultural information that may be sensitive or have restricted public access (refer to Appendix 6), the possibility cannot be excluded that traditional or historical Aboriginal values or associations may exist that were not divulged by the persons consulted. It was not feasible to contact every single knowledge holder in the Aboriginal community.

Contemporary cultural values associated with the SSD Area have been identified by the RAPs, largely during the course of previous studies (refer to Section 3) rather than specifically during the course of the present survey. Some of these values relate to physical objects, including items that qualify as *Aboriginal objects* as defined under the *National Parks and Wildlife Act 1974*. However, some relate to intangible values, associations or landscape features that do not qualify as *Aboriginal objects.* These include:

- In general terms, the use of subsistence or other resources, with comments about the presence of various native flora and fauna where observed. These comments have not been of a historical nature (ie. do not relate to plant and animal resource use areas known from the post-contact period) but rather have been general observations of the occurrence of particular species and their known traditional uses (eg. for food, medicine, tools, etc.); and
- In general terms, the traditional use of the area by Aboriginal people, and an ongoing cultural and spiritual connection to the land and resources of the SSD Area by the Wonnarua and Kamilaroi (Gomeroi) people. The cultural connectivity of landscapes and Aboriginal pathways through the wider central to upper Hunter Valley landscape have been noted.

In addition, archaeological sites, such as the artefact scatters identified within the investigation area, are of contemporary significance to the Aboriginal community, as they represent a tangible link with the traditional past and with the lifestyle and values of community ancestors.

In order to consult more widely with the RAPs about cultural knowledge and values potentially associated with the SSD Area, social anthropologist Susan Dale Donaldson of Environmental and Cultural Services conducted a supplementary assessment of Aboriginal cultural values (refer to Appendix 9). The additional consultation and assessment was undertaken during the time period when the draft ACHA was in circulation with the RAPs for their review and comment (refer to consultation database in Appendix 6 and to report in Appendix 9).

The supplementary assessment of Aboriginal cultural values highlighted a number of cultural heritage themes associated with Mount Pleasant and the surrounding landscape including:

- The important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects;
- The historic resistance of Wonnarua ancestors to colonisation is valued by Wonnarua people today - the past acts are an integral part of contemporary Wonnarua cultural identity and form part of people's attachment to place;
- The customary right to care for and make decisions about one's traditional land is important to Wonnarua people today; and
- The ongoing cultural use of natural resources, including water, across the landscape is an important cultural practise for Wonnarua people today.

However, the assessment did not identify any specific sites or areas of cultural significance within the SSD Area that may warrant an Aboriginal Place Declaration under the NP&W Act or scheduling as an Aboriginal place of heritage significance in the Muswellbrook Shire Council Local Environmental Plan. No specific sites or cultural areas were identified that required specific impact mitigation recommendations (refer to Appendix 9).

In general terms, the attachment of the Wonnarua and Kamilaroi (Gomeroi) people to the landscape and continuing strong cultural connections with the locality of the area is evident. As noted by Goulding (2002:63) land is a fundamental part of Aboriginal culture, and such cultural connections are integral to the health and wellbeing of Aboriginal people, although can be complex and are not always obvious to others.

Two overlapping Native Title registrations have been accepted for registration by the National Native Title Tribunal over the SSD Area:

- NC2013/006 by Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People (Discontinued in March 2020); and
- NC2011/006 by the Gomeroi People.

Compliance with Procedures 4.3 and 4.4 of the Heritage NSW consultation policy were achieved by providing copies of the draft Aboriginal Cultural Heritage Assessment Report to each of the RAPs on 19 August 2020, with a request for their comment by 23 September 2020, followed by preparation of a final report incorporating and addressing any input received. Additional email and telephone reminders to RAPs of the request for comment were made on 17 and 23 September 2020 (refer to Appendix 6).

Subsequent to the completion of the field survey and draft report, MACH also invited on 19 August 2020 all RAPs to attend an online information session to discuss the survey results, cultural values and draft Aboriginal Cultural Heritage Assessment Report. The online information session was held on 2 September 2020, with only Kylie Pascoe of Hunter Valley Aboriginal Corporation in attendance. Due to Covid-19 restrictions, an on-site meeting was not possible, although was not requested by any RAPs.

A final Aboriginal Cultural Heritage Assessment Report has been prepared that incorporates and addresses the input received from the RAPs. Correspondence received from the RAPs is included in Appendix 6. Issues raised by the RAPs during the course of the assessment and subsequent consultation and how they have been addressed are outlined in Table 11.

Responses to the draft Aboriginal Cultural Heritage Assessment Report (refer to Appendix 6) were provided by:

- Carolyn Hickey of A1 Indigenous Services on 23 August 2020 in support of the ACHA;
- Steven Hickey of Widescope Group on 18 September 2020 in support of the ACHA recommendations;
- George Sampson of Cacatua General Services on 23 September 2020 indicating that he did not have any comments on the ACHA;
- Kylie Pascoe of Hunter Valley Aboriginal Corporation on 24 September 2020 in support of the ACHA recommendations; and
- Noel Downs of the Wanaruah LALC on 23 September 2020 who raised several issues which are addressed in Table 11.

Copies of the final Aboriginal Cultural Heritage Assessment Report will be made available to all RAPs.

Table 10: Summary of Registered Aboriginal Parties involvement in the SSD Project (list of RAPs courtesy MACH).

Registered Aboriginal Party	Sent Project Information, Methodology and Meeting Invite	Responded to Methods by Closing Date	Attended Meeting	Attended Field Survey
A1 Indigenous Cultural Services	9/10/2019	-	-	-
Aboriginal Native Title Consultants	9/10/2019	-	-	-
AGA Services	9/10/2019	-	-	-
Aliera French Trading	9/10/2019	-	-	-
Amanda Hickey Cultural Services	9/10/2019	-	-	-
Amanda Howard	9/10/2019	-	-	-
Barry & Colleen Stair	9/10/2019	-	-	-
Bawurra Consultants	9/10/2019	-	-	-
Bigundi Biame Traditional People	9/10/2019	-	-	-
BJC Cultural Management	9/10/2019	-	-	-
Breeza Plains Culture and Heritage Consultants	9/10/2019	-	-	-
Buda Mada Koori Womens Aboriginal Corporation	9/10/2019	-	-	-
Bunda Consultants	9/10/2019	-	-	-
Cacatua General Services	9/10/2019	-	-	-
Carrawonga	9/10/2019	-	-	-
Chantae Griffiths	9/10/2019	-	-	-
Clifford Johnson	9/10/2019	-	-	-
Crimson-Rosie	9/10/2019	-	-	-
Culturally Aware	9/10/2019	-	-	-
Deslee Talbot Consultant	9/10/2019	-	-	-
DFTV Enterprises	9/10/2019	-	-	-
Divine Diggers Aboriginal Cultural Consultants	9/10/2019	-	-	-
DRM Cultural Management	9/10/2019	-	-	-
Esther Tighe	9/10/2019	-	-	-
Fiona Draper	9/10/2019	-	-	-
Galamaay Consultant	9/10/2019	-	-	-
Gidawaa Walang Cultural Heritage Consultancy	9/10/2019	-	-	-
Gina Field	9/10/2019	-	-	-
Giwiirr Consultants	9/10/2019	-	-	-
Gomeroi Murri Ganuurr Yuuray Wadi Palinka	9/10/2019	-	-	-
Gomeroi Namoi Traditional Owners	9/10/2019	-	-	-
Gomery Cultural Consultants	9/10/2019	-	-	13-14/11/19
Hazel Collins	9/10/2019	-	-	-
HECMO Consultants	9/10/2019	-	-	-
HTO Environmental Management Services	9/10/2019	-	-	-
Hunter Valley Aboriginal Corporation	9/10/2019	-	5/11/19	13-14/11/19
Hunter Valley Cultural Consultants	9/10/2019	-	-	-
Hunter Valley Cultural Surveying	9/10/2019	-	-	-

Table 10 (continued):

Registered Aboriginal Party	Sent Project Information, Methodology and Meeting Invite	Responded to Methods by Closing Date	Attended Meeting	Attended Field Survey
Hunter Valley Traditional Owner Environmental Management Services	9/10/2019	-	-	-
I & E Aboriginal Culture and Heritage	9/10/2019	-	-	-
Jarban & Mugrebea	9/10/2019	-	-	-
JLC Cultural Services	9/10/2019	-	-	-
Jumbunna Traffic Management Group Pty Ltd	9/10/2019	-	-	-
Kauwul (Wonn 1)	9/10/2019	-	-	-
Kawul Cultural Services	9/10/2019	-	-	-
Kayaway Eco-Cultural and Heritage Services	9/10/2019	-	-	-
KL.KG Saunders Trading Services	9/10/2019	-	-	-
L.J Culture Management	9/10/2019	-	-	-
Lower Hunter Aboriginal Corporation	9/10/2019	-	-	-
Lower Hunter Aboriginal Incorporated	9/10/2019	-	-	-
Lower Hunter Wonnarua Council Inc.	9/10/2019	-	-	-
Lower Wonnarua Tribal Consultancy Pty Ltd	9/10/2019	-	-	-
Luke Cameron Culture Management	9/10/2019	-	-	-
Marvonia Welsh	9/10/2019	-	-	-
ME Griffiths Cultural Management	9/10/2019	-	-	-
Michele Stair	9/10/2019	-	-	-
Mingga Consultants	9/10/2019	-	-	-
Moreeites	9/10/2019	-	-	-
Murrawan Cultural Consultants	9/10/2019	-	-	-
Muswellbrook Culture Consultants	9/10/2019	-	-	-
My Land Cultural Heritage	9/10/2019	-	-	-
Plains Clans of the Wonnarua People Registered Native Title Claim	9/10/2019	-	-	-
Roger Noel Matthews	9/10/2019	-	-	-
Smith Dhagaans Cultural Group	9/10/2019	-	-	-
T & G Culture Consultants	9/10/2019	-	-	-
Tocomwall Pty Ltd	9/10/2019	-	-	-
Ungooroo Aboriginal Corporation	9/10/2019	-	5/11/19	-
Ungooroo Cultural & Community Services Inc	9/10/2019	-	-	-
Upper Hunter Heritage Consultants	9/10/2019	-	-	-
Upper Hunter Natural and Cultural Resources Management	9/10/2019	-	-	-
Upper Hunter Wonnarua Council Incorporated	9/10/2019	-	-	-
Valley Culture	9/10/2019	-	-	-
Valley ELM Corp	9/10/2019	-	-	-
Waabi Gabinya Cultural Consultancy	9/10/2019	-	-	-
Wallangan Cultural Services	9/10/2019	-	-	-

Table 10 (continued):

Registered Aboriginal Party	Sent Project Information, Methodology and Meeting Invite	Responded to Methods by Closing Date	Attended Meeting	Attended Field Survey
Wanaruah Aboriginal Custodians Corporation	9/10/2019	-	-	-
Wanaruah Local Aboriginal Lands Council	9/10/2019	-	-	-
Warrabinga Native Title Claimants Aboriginal Corporation	9/10/2019	-	-	-
Warren Taggart	9/10/2019	-	-	-
Wattaka Wonnarua Cultural Consultants Service	9/10/2019	-	-	-
Widescope Indigenous Group Pty Ltd	9/10/2019	-	-	-
Wonnarua Culture and Heritage	9/10/2019	-	-	-
Wonnarua Culture Heritage	9/10/2019	-	-	-
Wonnarua Elders Council Inc.	9/10/2019	-	-	-
Wonnarua Nation Aboriginal Corporation	9/10/2019	-	-	-
Wonnarua Traditional Custodians	9/10/2019	-	-	-
Yarrawalk Enterprises	9/10/2019	-	-	-
Yinarr Cultural Services	9/10/2019	-	-	-

Table 11: Summary of Registered Aboriginal Parties key comments and how they have been addressed by the Project.

Issue #	Issue	Raised by	Project Team Response
1	Queried curation of artefacts after salvage and recommended for a proposed Keeping Place.	Rhonda Griffiths (Hunter Valley Aboriginal Corporation,5/11/2019)	Curation of salvaged artefacts to be considered further as part of SSD Project and development of revised AHMP in consultation with stakeholders, as addressed in Recommendation 1(m).
2	Wanaruah LALC does not support the recommendation sub paragraph (r). Specifically the part requiring BA Honours Deg qualifications as a minimum to conduct investigations. In our experience there are Aboriginal community who have been involved in ACH activities and are every bit as capable and in many cases more so than many of the BA Honours Archaeologists we have worked with. There are also a number of Aboriginal Diploma qualified Archaeologists every bit as capable and far more knowledgeable than many BA Honours Archaeologists. To limit the pool of resources available to Aboriginal Community and force them to work with potentially substandard Archaeologists simply because they have a potentially meaningless piece of paper saying they know something is culturally inappropriate.	Noel Downs (Wanaruah LALC, 23/9/2020)	The recommendation is consistent with Heritage NSW policy and essential to address the issue raised by the LALC about archaeological investigations being undertaken by persons of insufficient qualifications and expertise. The continued involvement of the Aboriginal community in all further heritage actions on-site has been incorporated in the recommendations (refer to Section 11). The present investigation was undertaken by highly experienced and appropriately qualified archaeologists and a social anthropologist in accordance with relevant Heritage NSW policy and requirements (refer to Section 1.3).
3	No works, investigations, monitoring or disturbance of sites are to be done without the presence of at least two of Local Aboriginal community who have the relevant experience required to conduct the works required.	Noel Downs (Wanaruah LALC, 23/9/2020)	MACH prefers to continue applying the same RAPs involvement protocol as outlined in Sections 4.3 and 6 of the currently approved MPO AHMP.
4	The Wanaruah LALC community recommends that every effort is to be made to ensure that as many positions as possible to conduct any form of ACH works are filled by the Local Aboriginal community who have the relevant experience required to conduct the works in preference to bringing outsiders just because it is cheaper or easier is culturally inappropriate.	Noel Downs (Wanaruah LALC, 23/9/2020)	MACH prefers to continue applying the same RAPs involvement protocol as outlined in Section 4.3 of the currently approved MPO AHMP.
5	The Wanaruah LALC community recommends that mitigation measures must be offered that benefit the whole Local Aboriginal community not just the few. Land/ cultural offsets must include access to water, and be accessible by the Aboriginal community. These access processes must be timely and simple. Too often the complexity of the access procedures make access too difficult for many and that is also culturally inappropriate.	Noel Downs (Wanaruah LALC, 23/9/2020)	The approved Aboriginal Conservation Area A will be secured as per the current approval requirements. The LALC's input will be considered during the future investigation and assessment of alternative conservation outcomes for the provisional Conservation Areas B and C (as recommended in Section 11). Section 6.15 of the currently approved MPO AHMP outlines the approach to Aboriginal community access to sites and areas at the MPO. MACH prefers to continue applying the same approach in regards to the Aboriginal community access.

Issue #	Issue	Raised by	Project Team Response
6	The Wanaruah LALC community recommends that there needs to be a further push by MACH energy to employ more local Aboriginal people in every area of their operation. Including creating training positions to enable the employment of admin and accounts juniors, that may be able to progress through to management positions in time.	Noel Downs (Wanaruah LALC, 23/9/2020)	Comment noted and will be considered by MACH, but outside of the scope of this ACHA.
7	Preference for MACH to be working with Traditional Owners / Native Title Holders.	Rhoda Perry and Laurie Perry (Upper Hunter Wonnarua Council, Wonnarua Nation, interviews 18/9/2020)	MACH prefers to continue applying the same RAPs involvement protocol as outlined in Section 4.3 of the currently approved MPO AHMP.
8	Concern that many RAPs may not be Wonnarua knowledge holders and further consultation needed with the Plains Clans of the Wonnarua People.	Scott Franks (Plains Clans of the Wonnarua People, interview 18/9/2020)	MACH prefers to continue applying the same RAPs involvement protocol as outlined in Section 4.3 of the currently approved MPO AHMP.
9	Concern that not involved in archaeological assessment and preference that people from 'other areas' were not involved.	Des Hickey (Wonnarua Traditional Custodians, interview 18/9/2020)	MACH prefers to continue applying the same RAPs involvement protocol as outlined in Section 4.3 of the currently approved MPO AHMP. Wonnarua Traditional Custodians were consulted as outlined in Section 6 and Appendix 6.
10	Salvaged artefacts should remain 'on country', either re-buried or displayed.	George Sampson (Cacatua General Services, interview 21/9/2020)	Addressed by Recommendation 1(n): "all heritage evidence salvaged under the Project will be curated in an appropriate manner, as determined in consultation with the RAPs".

7. SIGNIFICANCE ASSESSMENT

7.1 Criteria

The information contained within this report, along with an assessment of the significance of the Aboriginal heritage evidence, provides the basis for informed decisions to be made regarding the management and degree of protection which should be afforded to specific Aboriginal heritage sites.

The significance of Aboriginal heritage evidence can be assessed along the following criteria, widely used in Aboriginal heritage management, derived from the relevant aspects of the International Council on Monuments and Sites (ICOMOS) *Burra Charter*:

I. Scientific (Archaeological) value;

II. Importance to Aboriginal people (Cultural value);

III. Educational value;

IV. Historic value; and

V. Aesthetic value.

Greater emphasis is generally placed on scientific and cultural criteria when assessing the significance of Aboriginal heritage evidence in Australia.

Scientific (Archaeological) Value:

Scientific value refers to the potential usefulness of heritage evidence to address further research questions, the representativeness of the evidence, the nature of the evidence and its state of preservation.

Research Potential:

Research potential refers to the potential for information derived from further investigation of the evidence to be used for answering current or future research questions. Research questions may relate to any number of issues concerning past human culture, human behaviour generally or the environment. Numerous locations of heritage evidence have research potential. The critical issue is the threshold level, at which the identification of research potential translates to significance/importance at a local, regional or national level.

Several key questions can be posed for each location of heritage evidence:

- Can the evidence contribute knowledge not available from any other resource?
- Can the evidence contribute knowledge, which no other such location of evidence can?
- Is this knowledge relevant to general questions about human history, past environment or other subjects?

Assessing research potential therefore relies on comparison with other evidence in local and regional contexts. The criteria used for assessing research potential include the:

a) Potential to address locally specific research questions;

b) Potential to address regional research questions;

c) Potential to address general methodological or theoretical questions;

d) Potential deposits; and

e) Potential to address future research questions.

In terms of meeting a threshold level to have significant research potential, the particular questions asked of the evidence should be able to contribute knowledge that is not available from other resources or evidence (either on a local or regional scale) and are relevant to general questions about human history, past environment or other subjects.

Representativeness:

Representativeness is generally assessed at local, regional and national levels. It is an important criterion, because the primary goal of cultural resource management is to afford greatest protection to a representative sample of Aboriginal heritage evidence throughout a region. The more unique or rare evidence is, the greater its value as being representative within a regional context.

The main criteria used for assessing representativeness include:

a) The extent to which the evidence occurs elsewhere in the region;

b) The extent to which this type of evidence is subject to existing or potential future impacts in the region;

c) The integrity of the evidence compared to that at other localities in the region;

d) Whether the evidence represents a prime example of its type within the region; and

e) Whether the evidence has greater potential for educational or demonstrative purposes than at other similar localities in the region.

Nature of Evidence:

The nature of the heritage evidence is related to representativeness and research potential. The less common the type of evidence is, the more likely it will have representative value. The nature of the evidence is directly related to its potential to be used in addressing present or future research questions. Criteria used in assessing the nature of the evidence include the:

a) Presence, range and frequency of stone materials;

b) Presence, range and frequency of artefact types; and

c) Presence and types of other features.

A broader range of stone and artefact types generally equates to the potential for information to address a broader range of research questions. The presence of non-microlith and microlith tool types also equates to higher potential to address relevant research questions. The presence and frequency of particular stone or artefact types or other features also has relevance to the issue of representativeness (for example, a rare type may be present).

Integrity:

The state of preservation of the evidence (integrity) is also related to representativeness and research potential. The higher the integrity of evidence, the greater the level of scientific information likely to be obtained from its further study. This translates to greater importance for the evidence within a local or regional context, as it may be a suitable example for preservation within a sample representative of the entire cultural resources of a region.

The criteria used in assessing integrity include:

a) Horizontal and vertical spatial distribution of artefacts;

b) Preservation of intact features such as midden deposits, hearths or knapping floors;

c) Preservation of site contents such as charcoal and shell which may enable accurate direct dating or other analysis; and

d) Preservation of artefacts which may enable use-wear/residue analysis.

Generally, many of these criteria can only be applied to evidence obtained by controlled excavation. High levels of ground disturbance limit the possibility that the evidence would surpass the threshold of significance on the basis of integrity (ie. the area would be unlikely to possess intact spatial distributions, intact features, *in situ* charcoal or shell, etc).

Aboriginal (Cultural) Significance:

Aboriginal (cultural) significance refers to the value placed upon Aboriginal heritage evidence by the local Aboriginal community.

All heritage evidence tends to have some contemporary significance to Aboriginal people, because it represents an important tangible link to their past and to the landscape. Heritage evidence may be part of contemporary Aboriginal culture or be significant because of its connection to spiritual beliefs or as a part of recent Aboriginal history.

Consultation with the local Aboriginal community is essential to identify the level of Aboriginal significance.

Educational Value:

Educational value refers to the potential of heritage evidence to be used as an educational resource for groups within the community.

Historic Value:

Historic value refers to the importance of heritage evidence in relation to the location of an historic event, phase, figure or activity.

Aesthetic Value:

Aesthetic value includes all aspects of sensory perception. This criterion is mainly applied to art sites or mythological sites.

7.2 Significance of Heritage Evidence Within the SSD Area

A total of approximately 1,965 heritage items have been recorded within the MPO Aboriginal Site Database Area, including 1,909 open artefact sites and 14 scarred trees, and 41 items subsequently reassessed not to be Aboriginal sites. Many of these items are located directly within the SSD Area (refer to mapping in Appendix 4 and list of sites in Appendix 7). Approximately 195 of these items are located outside of the SSD Area, including 70 within the approved Conservation Area A.

The heritage significance of a number of the Aboriginal sites has specifically been assessed by the previous recorders (refer to Section 3). Where this has occurred, the significance rating for each site is presented in Appendix 7 and is summarised in Table 12 with respect to the SSD Zones.

It is acknowledged that all Aboriginal heritage sites are of significance to the Aboriginal community and that while the Aboriginal community themselves are in the best position to identify the levels of cultural significance, there is often a diversity of opinion and a reluctance to engage in any comparative or ranking process (as is inherent within any system of significance assessment). Consequently, the significance assessments based on concepts of relativity and ranking presented here from the previous MPO studies generally relate to scientific aspects of significance, but this is in no way intended to prioritise scientific values over cultural values, it merely reflects the information presented in the previous assessments.

Consultation with the Aboriginal community into the cultural significance of the area is an ongoing process (refer to MACH Energy 2017) and has been undertaken in relation to this SSD assessment (refer to Section 6 and Appendices 6 and 9) and all previous assessments. The assessment of Aboriginal cultural values (refer to Appendix 9) did not identify any specific sites or areas of cultural significance within the SSD Area that require specific impact mitigation recommendations, or that may warrant an Aboriginal Place Declaration under the NP&W Act or scheduling as an Aboriginal place of heritage significance in the Muswellbrook Shire Council Local Environmental Plan.

For a number of previously recorded sites, the heritage significance has only been assessed by the recorders in general terms during their assessment. As such, a significance rating is not presented in Appendix 7, and it is considered outside of the scope of this assessment to reassess the significance of these sites (many of which have been subject to AHIPs issued by the OEH {now BCD} on the basis of the previously available information and subsequently salvaged and/or impacted). Further consideration of significance is not considered to be warranted for those sites for which AHIPs have been issued (including within SSD Zones B1 and B3), that have already been subject to salvage and/or subsequent impacts, and/or are located in the SSD Zone A for which existing impacts have been approved and management strategies approved (refer to Sections 10 and 11).

However, where sites remain *in situ* and are subject to potential additional impacts from the SSD Project (SSD Zones B2, B4 and C), assessment of the specific significance of individual sites may be warranted in relation to determining an appropriate management strategy for each site. Recommendations to this effect have been included in Appendix 7 (refer also to Sections 10 and 11). The significance of these sites has typically been noted as 'uncertain' in Appendix 7 and Table 12.

Table 12: Summary of previous heritage significance assessments within the MPO Aboriginal Site Database Area in relation to site types and SSD Zones.

SSD Zone and Significance	Site Type				Total
	Non-Site	Open Artefact Site	Scarred Tree	Spiritual Place	
SSD Zone A1					
Low		46			**46**
Low-moderate		6			**6**
Moderate		2			**2**
Moderate-high		1	2		**3**
Nil	14				**14**
Uncertain		2		1	**3**
Not assessed		723			**723**
SSD Zone A1 and Zone C					
High		1			**1**
SSD Zone A1 or Outside SSD Area					
Not assessed		1			**1**
SSD Zone A1R - C					
Low		40			**40**
Nil	2				**2**
Uncertain		9			**9**
Not assessed		5			**5**
SSD Zone A2					
Low		66			**66**
Low-moderate		2			**2**
Moderate		1			**1**
Moderate-high		1			**1**
Nil	3				**3**
Uncertain		13			**13**
Not assessed		26			**26**
SSD Zone A2R - C					
Low		173			**173**
Nil	5				**5**
Uncertain		48			**48**
SSD Zone A4R - C					
Uncertain		2			**2**
SSD Zone B1					
Low		5			**5**
Moderate-high			1		**1**
Nil	2				**2**
Uncertain		6			**6**
Not assessed		72			**72**
SSD Zone B1 and Zone C					
Low		1			**1**

Table 12 (continued):

SSD Zone and Significance	Site Type				Total
	Non-Site	Open Artefact Site	Scarred Tree	Spiritual Place	
SSD Zone B2					
Low		9			**9**
Low-moderate		3			**3**
Moderate		1			**1**
Nil	1				**1**
Uncertain		25			**25**
SSD Zone B3					
Low		2			**2**
SSD Zone B4					
Low		5			**5**
Uncertain		3			**3**
SSD Zone B4 and Zone C					
Uncertain		1			**1**
SSD Zone C					
Low		51			**51**
Low-moderate		1			**1**
Moderate		12			**12**
Moderate-high			1		**1**
Nil	7				**7**
Uncertain		137			**137**
Not assessed		210	8		**218**
SSD Zone C and Zone B2					
Low-moderate		1			**1**
SSD Zone C or Outside SSD Area					
Low		1			**1**
Not assessed		4			**4**
SSD Zones A, B and C					
Uncertain		1			**1**
SSD Zones A1, A2, A2R, B1, B2 and C					
Uncertain		1			**1**
SSD Zones A2, B2 and C					
Uncertain		1			**1**
Conservation Area A and SSD Zone C					
Moderate		1			**1**
Not assessed		1			**1**
Conservation Area A (Outside SSD Area)					
Nil	6				**6**
Not assessed		64			**64**
Outside SSD Area					
Nil	1				**1**
Not assessed		122	2		**124**
Total	**41**	**1909**	**14**	**1**	**1965**

In terms of the previous significance assessments, it is noted that artefact scatters and isolated artefacts (open artefact sites) are common occurrences throughout the region and are therefore generally of low representative value. Open artefact sites tend to be of lower significance if levels of ground disturbance are high (and therefore the integrity of any evidence is low), there is a limited range and nature of artefact evidence, and/or the potential for deposits of research value is low. Artefact occurrences tend to be of higher significance if the site integrity is high and there is a higher potential for deposits of research value, a broad range and nature of evidence present, and/or rare or unusual types present.

Research potential relates to the probability that the sites contain sub-surface deposits that may yield evidence useful in addressing locally relevant research questions, such as those relating to occupation patterns or stone technology. This can be assessed in relation to the detailed model of occupation (refer to Section 3.4) and thus assumes that deposits of higher research potential will generally be located where more focused occupation has occurred, such as in primary and secondary resource zones. As discussed in Section 3.5, the occurrence of these contexts within the SSD Area is confined to limited areas (areas of low gradient close to the Hunter River and possibly a minor portion of a fourth order un-named drainage north of Dorset Road).

The previously recorded scarred trees have been assessed as being of moderate to high significance (where an assessment has occurred). However, these trees have not been reassessed to determine if the reported scars are actually of Aboriginal origin. Reassessments of 37 previously reported scarred trees within the MPO by South East Archaeology and Global Soil Systems (Kuskie 2017a-c, 2019, Burns 2017a-c, Global Soil Systems 2019) have identified that the scarring on all 37 trees had originated from non-Aboriginal causes. Recommendations are presented for these remaining trees to ensure that the origins of the scars are adequately assessed prior to reassessment of heritage significance and consideration of management strategies (refer to Sections 10 and 11 and Appendix 7).

One spiritual place is listed on the MPO Aboriginal Site Database, MTP-457, recorded by Roberts (2007) as a "steep slope overlooking flat possible taboo area (men's area)". No further information was presented by Roberts (2007) and the validity of this site remains uncertain. It is however, located within SSD Zone A1, with an approved AHIP in place for existing approved disturbance, and therefore further assessment is not warranted.

The conduct of the present survey of Zones B3 and B4 resulted in the identification of seven open artefact sites (MTP-1741 to MTP-1747). The significance of these Aboriginal heritage sites has been assessed here in relation to the criteria presented in Section 7.1. The significance assessment of these sites is included in Table 12.

It is noted that all Aboriginal heritage is of interest and contemporary value to the Aboriginal community. Aboriginal heritage evidence represents a tangible link with the traditional past and with the lifestyle and values of community ancestors. The Aboriginal community themselves are in the best position to identify the levels of cultural significance and the stakeholders have been invited throughout the course of the SSD Project, the field investigation, stakeholder meetings and provision of the draft heritage assessment report to provide input into the cultural significance of the specific sites and areas. While the assessment of Aboriginal cultural values (refer to Appendix 9) did not identify any specific sites or areas of cultural significance within the SSD Area, the important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects has been widely noted.

Sites MTP-1741, 1742, 1743, 1744, 1745, 1746 and 1747 are assessed as being of low scientific significance within a local context and low scientific significance within a regional context on the basis that the sites:

- Are of low representative value within a regional context. Similar evidence exists elsewhere throughout the region and the identified artefacts do not represent rare or unusual types;
- Exhibit a very limited range of artefact and stone material types;
- Have been affected to a moderate to high extent by post-depositional processes. The identified surface loci of evidence are of relatively low integrity; and
- There is a low potential for sub-surface deposits that may be of high research value.

The previously recorded site #37-2-1447 was only partially re-recorded during the present survey and therefore its significance is not assessed here.

No sites or places associated with ceremonies, spiritual/mythological beliefs or traditional knowledge, which date from the pre-contact period and have persisted until the present time, or places associated with historical associations which date from the post-contact period and are remembered by people today, were identified within the investigation area.

However, as documented above and in Appendix 9, the physical manifestations of evidence of past occupation (Aboriginal objects or archaeological/heritage sites) are generally of contemporary significance to the Aboriginal community, as they represent a tangible link with the traditional past and with the lifestyle and values of community ancestors.

Contemporary cultural values associated with the SSD Area have been identified by the RAPs, largely during the course of previous studies (refer to Section 3) rather than specifically during the course of the present heritage survey, including:

- In general terms, the use of subsistence or other resources;
- In general terms, the traditional use of the area by Aboriginal people, and an ongoing cultural and spiritual connection to the land and resources of the SSD Area by the Wonnarua and Kamilaroi (Gomeroi) people. The cultural connectivity of landscapes and Aboriginal pathways through the wider central to upper Hunter Valley landscape have been noted; and
- The contemporary significance of Aboriginal objects - archaeological evidence (such as artefact scatters) identified within the SSD Area is of contemporary significance to the Aboriginal community, as it represents a tangible link with the traditional past and with the lifestyle and values of community ancestors.

Further investigation of Aboriginal cultural values specifically in relation to this assessment (refer to Appendix 9) highlighted a number of cultural heritage themes associated with Mount Pleasant and the surrounding landscape including:

- As noted above, the important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects;
- The historic resistance of Wonnarua ancestors to colonisation is valued by Wonnarua people today - the past acts are an integral part of contemporary Wonnarua cultural identity and form part of people's attachment to place;

- The customary right to care for and make decisions about one's traditional land is important to Wonnarua people today; and
- As noted above, the ongoing cultural use of natural resources, including water, across the landscape is an important cultural practise for Wonnarua people today.

In general terms, the attachment of the Wonnarua and Kamilaroi (Gomeroi) people to the landscape and continuing strong cultural connections with the locality of the area is evident. As noted by Goulding (2002:63) land is a fundamental part of Aboriginal culture, and such cultural connections are integral to the health and wellbeing of Aboriginal people, although can be complex and are not always obvious to others. Nevertheless, evidence was not identified during the investigation that distinguished, in a comparative or ranking sense, the investigation area as being more or less significant than other parts of the Hunter Valley. In relation to intangible cultural heritage, no specific sites or areas of cultural significance within the SSD Area have been identified that require specific impact mitigation recommendations, or that may warrant an Aboriginal Place Declaration under the NP&W Act or scheduling as an Aboriginal place of heritage significance in the Muswellbrook Shire Council Local Environmental Plan.

8. STATUTORY OBLIGATIONS

Commonwealth, State and local legislation relevant to the protection and management of Aboriginal heritage is outlined in the sections below. The investigation area does not contain any heritage items listed for indigenous values under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* or NSW *Heritage Act 1977*, but it does contain Aboriginal objects protected under the NSW *National Parks and Wildlife Act 1974*.

8.1 Commonwealth

While the primary legislation offering protection to Aboriginal heritage in NSW is enacted by the State (refer to Section 8.2), several Acts administered by the Commonwealth may also be relevant.

Environment Protection and Biodiversity Conservation Act 1999:

The EPBC Act is the primary Commonwealth legislation for the protection and management of matters of national environmental significance, which includes heritage places. The primary features of the EPBC Act relating to heritage include:

- A National Heritage List of natural, indigenous and historic places of national heritage significance; and
- A Commonwealth Heritage List of heritage places owned or managed by the Commonwealth.

Commonwealth Heritage places are protected in that:

- Actions taken on Commonwealth land which are likely to have a significant impact on the environment will require the approval of the Minister;
- Actions taken outside Commonwealth land which are likely to have a significant impact on the environment on Commonwealth land, will require the approval of the Minister; and
- Actions taken by the Commonwealth Government or its agencies that are likely to have a significant impact on the environment anywhere will require approval by the Minister.

Australian Government agencies that own or lease heritage places are required to assist the Minister and the Australian Heritage Council to identify and assess the heritage values of these places. They are required to:

- Develop heritage strategies;
- Produce a register of the heritage places under their control;
- Develop a management plan to manage these places consistent with the Commonwealth Heritage Management Principles prescribed in regulations to the Act;
- Ensure the ongoing protection of the Commonwealth heritage values of the place when selling or leasing a Commonwealth heritage place; and
- Ask the Minister for advice about taking an action, if the action has, will have, or is likely to have, a significant impact on a Commonwealth heritage place.

The environmental assessment process of the EPBC Act protects matters of national environmental significance (including national heritage places), along with the environment where actions proposed are on, or will affect, Commonwealth land and/or where Commonwealth agencies are proposing to take an action.

When a proposal is identified as having the potential to have a significant impact on a matter of national environmental significance, the proponent must refer the project to the Commonwealth Department of the Environment. The matter is made public and referred to the relevant state, territory and Commonwealth ministers for comment. The Minister then decides whether the likely environmental impacts of the project are such that it should be assessed under the EPBC Act.

State governments may, under agreement with the Commonwealth, assess actions that may have an impact on matters of national environmental significance. Following assessment, the Minister or their delegate may approve the action (with or without conditions) or not approve the action.

Australian Heritage Council Act 2003:

The *Australian Heritage Council Act 2003* established the Australian Heritage Council, an independent expert body to advise the Minister on the listing and protection of heritage places and other matters relating to heritage. This Act also enabled until 19 February 2012 the continued management of the Register of the National Estate, a list of more than 13,000 heritage places around Australia that had been compiled by the former Australian Heritage Commission since 1976. The Register of the National Estate has now ceased to be a statutory list and is retained only as an archive of information. References to the Register of the National Estate have now been removed from the EPBC Act and *Australian Heritage Council Act 2003*.

Aboriginal and Torres Strait Islander Heritage Protection Act 1984:

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* provides for the protection of areas and objects which are of significance to Aboriginal people in accordance with Aboriginal tradition. The Act allows Aboriginal people to apply to the Minister to seek protection for significant Aboriginal areas and objects. The Minister has broad powers to make such a declaration should the Minister be satisfied that the area or object is a significant Aboriginal area or object and is under immediate threat of injury or desecration. An 'emergency declaration' can remain in force for up to 30 days.

8.2 State

National Parks and Wildlife Act 1974:

The *National Parks and Wildlife Act 1974* (NP&W Act) provides the primary basis for the legal protection and management of Aboriginal heritage in NSW. With respect to development proposals and planning approvals, the *Environmental Planning and Assessment Act 1979* (EP&A Act) is the primary legislation.

Implementation of the Aboriginal heritage provisions of the NP&W Act is the responsibility of Heritage NSW (former OEH). The rationale behind the NP&W Act is to prevent the unnecessary or unwarranted destruction of Aboriginal objects and to protect and conserve objects where such action is considered warranted (DECCW 2009a, 2009b).

Section 2A of the Act, defines its objects to include:

(b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to:

(i) places, objects and features of significance to Aboriginal people, and
(ii) places of social value to the people of New South Wales, and
(iii) places of historic, architectural or scientific significance.

Section 2A also identifies that the objects of the Act are to be achieved by applying the principles of ecologically sustainable development, defined in Section 6 of the *Protection of the Environment Administration Act 1991* as requiring the integration of *economic* and *environmental* and *social* considerations (including cultural heritage) in the decision-making process.

In regard to Aboriginal cultural heritage, ecologically sustainable development can be achieved by applying the principle of intergenerational equity and the precautionary principle (DECCW 2009b).

Intergenerational equity is the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations. In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region, fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places. Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, are therefore relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a proposal (DECCW 2009b:26).

The precautionary principle states that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation. In applying the precautionary principle, decisions should be guided by (DECCW 2009b:26):

- A careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and
- An assessment of the risk-weighted consequences of various options.

The precautionary principle is relevant to Heritage NSW consideration of potential impacts to Aboriginal cultural heritage where:

- The proposal involves a risk of serious or irreversible damage to Aboriginal objects or places or to the value of those objects or places; and
- There is uncertainty about the Aboriginal cultural heritage values or scientific or archaeological values, including in relation to the integrity, rarity or representativeness of the Aboriginal objects or places proposed to be impacted (DECCW 2009b:26).

Where this is the case, Heritage NSW instructs that a precautionary approach should be taken and all cost-effective measures implemented to prevent or reduce damage to the objects/place (DECCW 2009b).

With the exception of some artefacts in collections, the NP&W Act generally defines all Aboriginal objects to be the property of the Crown. The Act then provides various controls for the protection, management of and impacts to these objects. An 'Aboriginal object' is defined under Section 5(1) as:

> 'any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.

In practice, archaeologists generally subdivide the legal category of 'object' into different site types, which relate to the way Aboriginal heritage evidence is found within the landscape. The archaeological definition of a 'site' may vary according to survey objectives, however it should be noted that even single and isolated artefacts are protected as Aboriginal objects under the NP&W Act.

Under Section 89A of the NP&W Act, a person who is aware of the location of an Aboriginal object that is the property of the Crown or, not being the property of the Crown, is real property, and does not, in the prescribed manner, notify the Director-General thereof within a reasonable time after the person first becomes aware of that location is guilty of an offence against the Act unless the person believes on reasonable grounds that the Director-General is aware of the location of that Aboriginal object. The 'prescribed manner' is currently taken to be written notice in a form approved by the Director-General, being the Aboriginal Site Recording Forms available on the Heritage NSW (former OEH) website. Failure to comply with the requirements may result in a maximum penalty of 100 penalty units and, in the case of a continuing offence, a further 10 penalty units for each day the offence continues, for an individual, with double the fines for a corporation.

Aboriginal places are defined as any place declared to be an Aboriginal place under Section 84 of the Act. Typically these are locations of 'special significance with respect to Aboriginal culture' (for example, traditional or historical cultural value to Aboriginal people), for which identified Aboriginal objects may not be present.

Section 86 of the NP&W Act specifies the offences and penalties relating to harming or desecrating Aboriginal objects and Aboriginal places:

1) A person must not harm or desecrate an object that the person knows is an Aboriginal object.

Maximum Penalty:
(a) in the case of an individual - 2,500 penalty units or imprisonment for one year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for two years, or both, or
(b) in the case of a corporation - 10,000 penalty units (currently $1,100,000).

2) A person must not harm an Aboriginal object ('strict liability offence').

Maximum Penalty:
(a) in the case of an individual - 500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or
(b) in the case of a corporation - 2,000 penalty units (currently $220,000).

Under Section 86(4) it is an offence for a person to harm or desecrate an Aboriginal place, with maximum penalties of 5,000 penalty units or imprisonment for two years, or both, for individuals and 10,000 penalty units for corporations.

Harm to an Aboriginal object or place is defined under Section 5(1) as any act or omission that:

(a) destroys, defaces or damages the object or place, or
(b) in relation to an object - moves the object from the land on which it had been situated, or
(c) is specified by the regulations, or
(d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c),

but does not include any act or omission that:

(e) desecrates the object or place, or
(f) is trivial or negligible, or
(g) is excluded from this definition by the regulations.

There are various exemptions and defences to offences under Section 86 of the Act, including:

- Of most relevance to development proposals generally, the offences under Section 86(1), (2) and (4) have a defence to prosecution under Section 87(1) if the harm or desecration was authorised by an Aboriginal Heritage Impact Permit (AHIP) and the conditions to which that AHIP were subject have not been contravened;

- The strict liability offence under Section 86(2) has a defence to prosecution under Section 87(2) if the person exercised *due diligence* to determine whether the act or omission constituting the alleged offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed. Section 87(3) and the regulations associated with the Act (National Parks and Wildlife Regulation 2019) enable due diligence to be achieved through compliance with industry-specific Codes of Practice approved by the Minister. These include the DECCW (2010a) *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* and other approved codes such as the *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council 2010).

- The strict liability offence under Section 86(2) has a defence to prosecution under Section 87(4) if the person shows that the act or omission constituting the alleged offence is prescribed by the regulations as a low impact act or omission.

  Clause 58 of the National Parks and Wildlife Regulation 2019 describes low impact acts or omissions as including:

  - Maintenance work on land already disturbed (such as maintenance of existing roads, tracks or utilities);
  - Farming and land management works on land already disturbed (such as cropping or leaving paddocks fallow, or construction of farm dams, fences, irrigation infrastructure, ground water bores, flood mitigation works, erosion control or soil conservation works, or maintenance of various existing infrastructure);
  - Grazing of animals;
  - Activity on already disturbed land that comprises exempt development or was the subject of a complying development certificate issued under the EP&A Act;
  - Mining exploration work (such as costeaning, bulk sampling or drilling) on land already disturbed;
  - Geological mapping, surface geophysical surveys and sub-surface surveys involving downhole logging, sampling or coring using hand-held equipment except where conducted as part of an archaeological investigation (exempted where the DECCW 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* is followed);

- Removal of isolated dead or dying vegetation if there is minimal ground disturbance;
- On already disturbed land seismic surveying or groundwater monitoring bores;
- Environmental rehabilitation work (such as silt fencing, tree planting, bush regeneration and weed removal, but not erosion control or soil conservation works).

For the purposes of Clause 80B, land is considered to be 'already disturbed' if it 'has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable' (for example, soil ploughing, construction of rural infrastructure such as dams and fences, construction of roads, tracks and trails, clearing of vegetation, construction of buildings, installation of utilities, substantial grazing involving the construction of rural infrastructure, or construction of earthworks related to the above);

- The defence of honest and reasonable mistake of fact applies under Section 86(5) to the strict liability offence of Section 86(2) and to offences against Aboriginal places under Section 86(4);

- The offences under Section 86(1) and (2) do not apply under Section 86(6), with respect to an Aboriginal object that is dealt with in accordance with section 85A (refer below);

- Exemptions are available under Section 87A to Section 86(1)-(4) for various emergency situations, conservation works and conservation agreements; and

- Exemptions are available under Section 87B to Section 86(1), (2) and (4) for Aboriginal people in relation to the carrying out of traditional cultural activities.

Consents regarding impacts to Aboriginal objects or areas with potential for Aboriginal objects are managed through the Heritage NSW Aboriginal Heritage Impact Permit system, as outlined in Section 90 of the NP&W Act and clauses 60-62 of the Regulations. The issuing of an AHIP is dependent upon adequate archaeological assessment and review (cultural heritage assessment report), together with an appropriate level of Aboriginal community liaison and involvement.

Typically, to support an AHIP, an Aboriginal cultural heritage assessment must be undertaken in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a), which effectively involves an assessment following the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and Aboriginal community consultation in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy (DECCW 2010c) (refer to Section 6).

The DECCW (2010b) *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* contains detailed requirements for heritage assessments. Key features include:

- Investigations must be undertaken by people with appropriate skills and experience, specified in Section 1.6 as:

  1) A minimum of a Bachelor's degree with honours in archaeology or relevant experience in the field of Aboriginal cultural heritage management, and

  2) The equivalent of two years full-time experience in Aboriginal archaeological investigation, including involvement in a project of similar scope, and

  3) A demonstrated ability to conduct a project of the scope required through inclusion as an attributed author on a report of similar scope.

- Archaeological test excavation will be necessary when (regardless of whether or not there are objects present on the ground surface) it can be demonstrated through Requirements 1, 2, 3, 4, and 5 of the Code that sub-surface Aboriginal objects with potential conservation value have a high probability of being present in an area, and the area cannot be substantially avoided by the proposed activity; and

- A Section 90 AHIP is not required for test excavations undertaken in compliance with the Code (implementation of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy is required however).

Under clause 61 of the National Parks and Wildlife Regulation 2019, the cultural heritage assessment report that accompanies the AHIP application must address:

- The significance of the Aboriginal objects or Aboriginal places that are the subject of the application;

- The actual or likely harm to those Aboriginal objects or Aboriginal places from the proposed activity that is the subject of the application;

- Any practical measures that may be taken to protect and conserve those Aboriginal objects or Aboriginal places;

- Any practical measures that may be taken to avoid or mitigate any actual or likely harm to those Aboriginal objects or Aboriginal places; and

- Include any submission received from a registered Aboriginal party under clause 80C and the applicant's response to that submission.

Heritage NSW determination of AHIP applications is guided by the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011a), *Applying for an Aboriginal Heritage Impact Permit: Guide for Applicants* (OEH 2011b) and *Guide to Aboriginal Heritage Impact Permit Processes and Decision-Making* (OEH 2011c) policy.

AHIPs may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons. AHIPs may be transferred or varied (subject to conditions and approval of the Director-General). AHIPs may be refused. An application is taken to be refused (unless otherwise granted or refused earlier), 60 days after the date on which the application was received by the Director-General (not including any period during which an applicant is required to supply to the Director-General further information under Section 90F).

The Director-General may attach any conditions seen fit to any AHIP granted. Failure to comply with a condition is deemed under Section 90J to be a contravention of the Act. Such offences may result in a maximum penalty of 1,000 penalty units and/or imprisonment for six months, and, in the case of a continuing offence, a further 100 penalty units for each day the offence continues, for an individual, with double the fines for a corporation.

Under Section 90K of the NP&W Act, in making a decision in relation to an AHIP, the Director-General must consider the following matters (but only these matters):

a) The objects of the Act;

b) Actual or likely harm to the Aboriginal objects or Aboriginal place that are the subject of the permit;

c) Practical measures that may be taken to protect and conserve the Aboriginal objects or Aboriginal place that are the subject of the permit;

d) Practical measures that may be taken to avoid or mitigate any actual or likely harm to the Aboriginal objects or Aboriginal place that are the subject of the permit;

e) The significance of the Aboriginal objects or Aboriginal place that are the subject of the permit;

f) The results of any consultation by the applicant with Aboriginal people regarding the Aboriginal objects or Aboriginal place that are the subject of the permit (including any submissions made by Aboriginal people as part of a consultation required by the regulations);

g) Whether any such consultation substantially complied with any requirements for consultation set out in the regulations (specified in Section 90N of the NP&W Act and clause 60 of the National Parks and Wildlife Regulation 2019 and in the DECCW *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*);

h) The social and economic consequences of making the decision;

i) Any documents accompanying the application and any public submission that has been made under the EP&A Act in connection with the activity to which the permit application relates and that has been received by the Director-General; and

j) Any other matter prescribed by the regulations.

An appeals process is available under Section 90L of the NP&W Act whereby an applicant, dissatisfied with the refusal of the Director-General to grant a Section 90 AHIP, or with any conditions attached to the AHIP, may appeal to the Land and Environment Court. The appeal must be made within 21 days after notice of the decision that is being appealed. The decision of the Land and Environment Court on the appeal is final and is binding on the Director-General and the appellant.

Under Section 85A of the NP&W Act, the Director-General may 'dispose' of Aboriginal objects that are the property of the crown:

a) By returning the Aboriginal objects to an Aboriginal owner or Aboriginal owners entitled to, and willing to accept possession, custody or control of the Aboriginal objects in accordance with Aboriginal tradition, or

b) By otherwise dealing with the Aboriginal objects in accordance with any reasonable directions of an Aboriginal owner or Aboriginal owners referred to in paragraph (a), or

c) If there is or are no such Aboriginal owner or Aboriginal owners - by transferring the Aboriginal objects to a person, or a person of a class, prescribed by the regulations for safekeeping (typically implemented by way of a Care Agreement between the OEH (now Heritage NSW) and the Aboriginal person or organisation).

Under Section 85A(3) of the NP&W Act, the regulations may make provision as to the manner in which any dispute concerning the entitlement of an Aboriginal owner or Aboriginal owners to possession, custody or control of Aboriginal objects for the purposes of this section is to be resolved.

Under Section 91AA of the NP&W Act, if the Director-General is of the opinion that any action is being, or is about to be carried out that is likely to significantly affect an Aboriginal object or Aboriginal place or any other item of cultural heritage situated on land reserved under the Act, the Director-General may make a stop-work order for a period of 40 days. Various exemptions exist, such as for emergency situations and for approved developments under the EP&A Act. A person that contravenes a stop-work order may be penalised up to 1,000 penalty units and an additional 100 units for every day the offence continues (10,000 units and 1,000 units respectively in the case of a corporation). Under Section 91A, the Director-General may also make recommendations to the Minister for an Interim Protection Order in respect of land which has cultural significance, including Aboriginal objects, for a duration of up to two years. The existence of an AHIP does not prevent the making of a stop-work order or an interim protection order (Section 90O).

Under Section 91L of the NP&W Act the Director-General may direct a person to carry out remediation work to Aboriginal objects or places, if they have been harmed as a result of an offence under the Act. The remediation work may involve protection, conservation, maintenance, remediation or restoration of the harmed Aboriginal object or place. The maximum penalties under Section 91Q for contravening a remediation direction are 2,000 penalty units and 200 penalty units for each day the offence continues for a corporation.

Environmental Planning and Assessment Act 1979:

The EP&A Act requires that environmental impacts (including those to cultural heritage) be considered in land use planning and decision-making. Under the EP&A Act various planning instruments such as Local Environmental Plans (LEPs) or Development Control Plans (DCPs) may be approved. These planning instruments and Plans may identify places and features of cultural heritage significance and define statutory requirements regarding the potential development, modification and conservation of these items. In general, places of identified significance, or places requiring further assessment, are listed in heritage schedules that form part of an LEP. Listed heritage items are then protected from certain defined activities, unless consent has been gained from an identified consent authority (typically the local government authority).

In determining a Development Application (DA) under Part 4 of the EP&A Act, a consent authority, such as a local government authority, must take into consideration matters such as the provisions of environmental planning instruments (for example, LEPs), DCPs, the likely impacts of that development, including environmental impacts on the natural and built environments, and social and economic impacts on the locality (Section 79C{1}).

If Aboriginal objects are known to exist on the land to which the development application applies prior to the application being made, under Part 4 of the EP&A Act an 'Integrated Development Application' (IDA) must be submitted to the consent authority (this process does not apply to 'State Significant Development' under Division 4.1 of Part 4). Any Development Approval issued for development of this kind must be consistent with the General Terms of Approval (GTA's) or requirements provided by the relevant State Government agency (for example, Heritage NSW).

Under Part 5 of the EP&A Act, public authorities and government agencies that carry out activities have a duty to take into account to the fullest extent possible all matters affecting or likely to affect the environment (including cultural heritage) by reason of that activity. This typically takes the form of a Review of Environmental Factors (REF) or Environmental Impact Statement (EIS), with the agency (proponent) acting as the determining authority.

Part 3A of the EP&A Act has been repealed, but under Division 4.1 of Part 4, 'State Significant Development' is treated in a similar manner to the former Part 3A. The Minister may be the Consent authority for State Significant Development applications, although for specific developments, the Independent Planning Commission may be the Consent authority. As for other development applications under Part 4, the environmental impacts of the proposal need to be considered, including those on heritage.

Similar to the previous Part 3A legislation, under Section 4.41 of the EP&A Act, a Section 90 AHIP to impact Aboriginal objects is not required for a State Significant Development approved after the commencement of the division, or for any investigative or other activities required to be carried out for the purpose of complying with environmental assessment requirements issued in connection with a development application for any such development. Aboriginal heritage is typically managed post-approval under an Aboriginal Cultural Heritage Management Plan subject to the approval of the DPIE, rather than under a Section 90 AHIP obtained under the NP&W Act.

MACH is seeking approval from the NSW Minister for Planning for a Development Consent under Division 4.1 of Part 4, 'State Significant Development', of the EP&A Act for the Mount Pleasant Optimisation Project.

The interplay of the NP&W Act and Regulation and the planning system is complex. For proposed developments, the specific level of Aboriginal heritage impact assessment and Aboriginal community consultation required, and any requirement for an AHIP, is highly dependent upon not just the NP&W Act and Regulation, but the nature of the proposal, the Part and Division of the EP&A Act under which planning approval is required, any specific project approval requirements issued by the DPIE and/or Heritage NSW, the presence or otherwise of Aboriginal objects, and the potential for Aboriginal objects to occur.

8.3 Local

Under the *Environmental Planning and Assessment Act 1979* the Minister may make various planning instruments such as Local Environment Plans (LEPs), that are administered at a local government level. These plans set out objectives and controls for the development of land in the local government areas.

The *Muswellbrook Local Environmental Plan 2009* applies to the investigation area, however is of limited relevance as approval is being sought under Division 4.1 of Part 4 of the EP&A Act.

9. POTENTIAL IMPACTS

The proposed works associated with the Mount Pleasant Optimisation Project have been outlined in Section 1.1 and are shown on Figure 4.

The potential impacts associated with the SSD Project principally comprise:

- *SSD Zone A - Direct surface impacts* involving *existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance*.
- *SSD Zone B - Direct surface impacts* involving *areas in which additional SSD primary disturbance is proposed*.
- *SSD Zone C - Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design.* This includes existing Approved Areas (Zones A1R, A2R, A3R and A4R) in which the disturbance areas are to be relinquished under the SSD.

The potential direct surface impacts on Aboriginal heritage (comprising both the identified Aboriginal objects, the potential resource and cultural values) are discussed further in Section 9.1. A consideration of these impacts within a regional context (ie. cumulative impacts) is discussed in Section 9.2.

The impacts associated with the approved MPO are currently counterbalanced through three approved and provisional Conservation Areas:

1. Stage 1 approved Aboriginal Heritage Conservation Area A – approximately 329 hectares as a guaranteed conservation area for the 2016-2020 development at the MPO.
2. Stage 2 provisional Aboriginal Heritage Conservation Area C – approximately 235 hectares to be considered as a conservation area for the post-2020 development at the MPO[23].
3. Stage 3 provisional Aboriginal Heritage Conservation Area B – approximately 150 hectares as a potential future conservation area subject to further consideration.

While the MPO will see the retention of Conservation Area A, located immediately west of the SSD Area, in order to resolve long-term management issues associated with overlapping/neighbouring projects and to address the components of the SSD Project, MACH intends to seek alternative options for the provisional Conservation Area B (also located outside of the SSD Area) and the provisional Conservation Area C (located within the SSD Area). The potential outcomes of these actions are discussed in Section 9.1.

The potential impacts of the SSD Project on each of the Aboriginal sites within the MPO Aboriginal Site Database Area are presented in Appendix 7 and summarised in Tables 13-19. These summaries refer to the potential impacts prior to the implementation of any mitigation measures. The level of impacts may be reduced to some extent by the implementation of various mitigation measures and management strategies, as outlined in Sections 10 and 11 and Appendix 7. The "type of harm" (categories of *direct*, *indirect* or *none*), "degree of harm" (categories of *total, partial* or *none*) and "consequence of harm" (categories of *total loss of value*, *partial loss of value*, or *no loss of value*) are as specified in the Heritage NSW (former OEH / BCD) (DECCW 2010b) requirements.

[23] Subject to the outcome of consideration of alternative conservation areas, MACH will seek to secure Area C within 12 months of the commencement of disturbance activities associated with the post-2020 development.

In the absence of appropriate management and mitigation measures, it is concluded that the *additional* impacts of the SSD Project on Aboriginal heritage (additional to those already approved through the MPO) would be relatively low within a local context and very low within a regional context. With the implementation of mitigation measures, the *additional* impacts of the SSD Project on Aboriginal heritage will be reduced to a minor extent. The implementation of alternative conservation outcomes *in lieu* of the provisional Conservation Area B and the provisional Conservation Area C would also counterbalance the *approved* and *additional* impacts of the SSD Project on Aboriginal heritage.

Table 13: Summary of type of potential direct impacts of the SSD Project (type of harm) for each Aboriginal site type within the MPO Aboriginal Site Database Area (refer to Appendix 7 for potential impacts for every individual site).

	Type of Harm					
Site Type	**N/A**	**None**	**Possibly Direct or None**	**Probably Direct**	**Direct**	**Total**
Artefact Scatter	461	74	260		115	**910**
Artefact Scatter with PAD	1	27				**28**
Isolated Artefact	530	74	212	1	133	**950**
Isolated Artefact with PAD		9				**9**
Non-Site	41					**41**
Open Artefact Site	6	2	2		2	**12**
Scarred Tree	2	2	9			**13**
Scarred Tree and Isolated Artefact					1	**1**
Spiritual Place					1	**1**
Total	**1041**	**188**	**483**	**1**	**252**	**1965**

* Type of harm is 'n/a' where site has been salvaged under existing approval (823 sites), item has been reassessed as not an Aboriginal site (41 items), surface collection is required under an AHIP in SSD Zones A1 and B1 (73 sites), unmitigated impact has occurred without surface collection under an AHIP in SSD Zones A1, B1 and C (91 sites), site was probably salvaged under the existing approval (7 sites), scar trees that require reassessment in SSD Zone A1 (2 items), partially salvaged and partially within Conservation Area A (1 site), probably outside the SSD Area (1 site) and possibly salvaged under the existing approval in SSD Zone A1 (2 sites).

Table 14: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area (refer to Appendix 7 for degree of harm for every individual site).

	Degree of Harm									
Site Type	**N/A**	**None**	**Partial**	**Possibly Partial or None**	**Possibly Total or Partial**	**Possibly Total, Partial or None**	**Probably Total**	**Total**	**Total or Partial**	**Total**
Artefact Scatter	461	74	1	1	2	259		109	3	**910**
Artefact Scatter with PAD	1	27								**28**
Isolated Artefact	530	74				212	1	133		**950**
Isolated Artefact with PAD		9								**9**
Non-Site	41									**41**
Open Artefact Site	6	2			1	2		1		**12**
Scarred Tree	2	2				9				**13**
Scarred Tree and Isolated Artefact								1		**1**
Spiritual Place								1		**1**
Total	**1041**	**188**	**1**	**1**	**3**	**482**	**1**	**245**	**3**	**1965**

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

Table 15: Summary of consequence of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area (refer to Appendix 7 for consequence of harm for every individual site).

	Consequence of Harm									
Site Type	**N/A**	**No Loss of Value**	**Partial Loss of Value**	**Possibly Partial or No Loss of Value**	**Possibly Total or Partial Loss of Value**	**Possibly Total, Partial or No Loss of Value**	**Probably Total Loss of Value**	**Total Loss of Value**	**Total or Partial Loss of Value**	**Total**
Artefact Scatter	461	74	1	1	2	259		109	3	**910**
Artefact Scatter with PAD	1	27								**28**
Isolated Artefact	530	74				212	1	133		**950**
Isolated Artefact with PAD		9								**9**
Non-Site	41									**41**
Open Artefact Site	6	2			1	2		1		**12**
Scarred Tree	2	2				9				**13**
Scarred Tree and Isolated Artefact								1		**1**
Spiritual Place								1		**1**
Total	**1041**	**188**	**1**	**1**	**3**	**482**	**1**	**245**	**3**	**1965**

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

Table 16: Summary of type of potential direct impacts of the SSD Project (type of harm) for Aboriginal sites within the MPO Aboriginal Site Database Area in relation to SSD Zone (refer to Appendix 7 for potential impacts for every individual site).

	Type of Harm					
SSD Zone	**N/A**	**None**	**Possibly Direct or None**	**Probably Direct**	**Direct**	**Total**
SSD Zone A1	731			1	65	**797**
SSD Zone A1 and Zone C					1	**1**
SSD Zone A1 or Outside SSD Area	1					**1**
SSD Zone A1R - C	7		49			**56**
SSD Zone A2	3				109	**112**
SSD Zone A2R - C	5		221			**226**
SSD Zone A4R - C			2			**2**
SSD Zone B1	62				24	**86**
SSD Zone B1 and Zone C					1	**1**
SSD Zone B2	1				38	**39**
SSD Zone B3					2	**2**
SSD Zone B4					8	**8**
SSD Zone B4 and Zone C					1	**1**
SSD Zone C	218		209			**427**
SSD Zone C and Zone B2					1	**1**
SSD Zone C or Outside SSD Area	5					**5**
SSD Zones A, B and C					1	**1**
SSD Zones A1, A2, A2R, B1, B2 and C			1			**1**
SSD Zones A2, B2 and C					1	**1**
Conservation Area A	6	64				**70**
Conservation Area A and SSD Zone C	1		1			**2**
Outside SSD Area	1	124				**125**
Total	**1041**	**188**	**483**	**1**	**252**	**1965**

* Refer to Table 13 for discussion of ‘n/a’ for type of harm.

Table 17: Summary of degree of harm of the SSD Project for Aboriginal sites within the MPO Aboriginal Site Database Area in relation to SSD Zone (refer to Appendix 7 for degree of harm for every individual site).

	Degree of Harm									
SSD Zone	**N/A**	**None**	**Partial**	**Possibly Partial or None**	**Possibly Total or Partial**	**Possibly Total, Partial or None**	**Probably Total**	**Total**	**Total or Partial**	**Total**
SSD Zone A1	731						1	65		**797**
SSD Zone A1 and Zone C			1							**1**
SSD Zone A1 or Outside SSD Area	1									**1**
SSD Zone A1R - C	7					49				**56**
SSD Zone A2	3							109		**112**
SSD Zone A2R - C	5					221				**226**
SSD Zone A4R - C						2				**2**
SSD Zone B1	62				1			23		**86**
SSD Zone B1 and Zone C									1	**1**
SSD Zone B2	1							38		**39**
SSD Zone B3								2		**2**
SSD Zone B4								8		**8**
SSD Zone B4 and Zone C					1					**1**
SSD Zone C	218					209				**427**
SSD Zone C and Zone B2					1					**1**
SSD Zone C or Outside SSD Area	5									**5**
SSD Zones A, B and C									1	**1**
SSD Zones A1, A2, A2R, B1, B2 and C						1				**1**
SSD Zones A2, B2 and C									1	**1**
Conservation Area A	6	64								**70**
Conservation Area A and SSD Zone C	1			1						**2**
Outside SSD Area	1	124								**125**
Total	**1041**	**188**	**1**	**1**	**3**	**482**	**1**	**245**	**3**	**1965**

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

Table 18: Summary of consequence of harm of the SSD Project for Aboriginal sites within the MPO Aboriginal Site Database Area in relation to SSD Zone (refer to Appendix 7 for consequence of harm for every individual site).

	Consequence of Harm									
SSD Zone	**N/A**	**No Loss of Value**	**Partial Loss of Value**	**Possibly Partial or No Loss of Value**	**Possibly Total or Partial Loss of Value**	**Possibly Total, Partial or No Loss of Value**	**Probably Total Loss of Value**	**Total Loss of Value**	**Total or Partial Loss of Value**	**Total**
SSD Zone A1	731						1	65		**797**
SSD Zone A1 and Zone C			1							**1**
SSD Zone A1 or Outside SSD Area	1									**1**
SSD Zone A1R - C	7					49				**56**
SSD Zone A2	3							109		**112**
SSD Zone A2R - C	5					221				**226**
SSD Zone A4R - C						2				**2**
SSD Zone B1	62				1			23		**86**
SSD Zone B1 and Zone C									1	**1**
SSD Zone B2	1							38		**39**
SSD Zone B3								2		**2**
SSD Zone B4								8		**8**
SSD Zone B4 and Zone C					1					**1**
SSD Zone C	218					209				**427**
SSD Zone C and Zone B2					1					**1**
SSD Zone C or Outside SSD Area	5									**5**
SSD Zones A, B and C									1	**1**
SSD Zones A1, A2, A2R, B1, B2 and C						1				**1**
SSD Zones A2, B2 and C									1	**1**
Conservation Area A	6	64								**70**
Conservation Area A and SSD Zone C	1			1						**2**
Outside SSD Area	1	124								**125**
Total	**1041**	**188**	**1**	**1**	**3**	**482**	**1**	**245**	**3**	**1965**

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

Table 19: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area in relation to level of heritage significance (refer to Appendix 7 for degree of harm and significance for every individual site).

	Degree of Harm									
Site Type / Significance	**N/A**	**None**	**Partial**	**Possibly Partial or None**	**Possibly Total or Partial**	**Possibly Total, Partial or None**	**Probably Total**	**Total**	**Total or Partial**	**Total**
Artefact Scatter										
High			1							**1**
Moderate-high	1							1		**2**
Moderate	2			1		12		2		**17**
Low-moderate	4				1	1		7		**13**
Low	16					139		45	1	**201**
Uncertain					1	107		25	2	**135**
Not assessed	438	74						29		**541**
Artefact Scatter with PAD										
Not assessed	1	27								**28**
Isolated Artefact										
Low	5					124		69		**198**
Uncertain						88		22		**110**
Not assessed	525	74					1	42		**642**
Isolated Artefact with PAD										
Not assessed		9								**9**
Open Artefact Site										
Uncertain					1	2		1		**4**
Not assessed	6	2								**8**
Scarred Tree										
Moderate-high	2					1				**3**
Not assessed		2				8				**10**
Scarred Tree and Isolated Artefact										
Moderate-high								1		**1**
Spiritual Place										
Uncertain								1		**1**
Non-Site										
Nil	41									**41**
Total	**1041**	**188**	**1**	**1**	**3**	**482**	**1**	**245**	**3**	**1965**

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

9.1 Potential Surface Impacts

The nature and level of potential direct surface impacts to Aboriginal heritage can be categorised as follows:

- Broad-scale high level impacts (*primary disturbance*), within SSD Zones A and B, comprising open cut coal extraction and the development of facilities and infrastructure for the extraction, handling, processing and transportation of coal;
- Small-scale low to high level impacts (*minor disturbance*), within SSD Zone C, comprising areas subject to future detailed design and with potentially some flexibility in location (small area impacts such as infrastructure relocations for roads, powerlines and water pipelines, ancillary infrastructure, exploratoration activities and environmental monitoring);
- Continuing land-use impacts, particularly relevant to SSD Zone C, comprising areas such as existing vehicle tracks, power easements and pastoral land, subject to ongoing use;
- Reductions of impacts, associated with existing approved areas for primary disturbance which are to be relinquished under the SSD (SSD Zones A1R, A2R and A4R); and
- Offsetting of impacts, through the retention of Conservation Area A and alternative options for the provisional Conservation Areas B and C.

These issues are discussed in Sections 9.1.1 – 9.1.5, with a summary of the potential increases, reductions and offsets of the SSD Project in Section 9.1.6. Tables 13-25 summarise much of the data.

Details for every individual site are included in Appendix 7, based on the MPO Aboriginal Site Database, and therefore including approximately 124 sites outside of the SSD Area, which are not discussed further below. Many of these sites outside of the SSD Area are located in Conservation Area B (approximately 29 sites), or were within the MPO approved Development Consent boundary but are now situated outside of the SSD Application Area (including approximately 72 sites within the Bengalla Mine approved disturbance boundary, of which 30 sites, along with another 21 sites, have been salvaged by Bengalla {AECOM 2017, ENSR 2008}). No specific sites or cultural areas of intangible cultural heritage significance were identified that require specific impact assessment or mitigation measures (refer to Appendix 9).

9.1.1 Broad-Scale High Level Impacts (Primary Disturbance)

The primary approved and additional impacts of the SSD Project on Aboriginal heritage would occur directly through broad-scale high level impact surface works (*primary disturbance*) and would principally affect open artefact sites. The impacts for each identified Aboriginal site within the MPO Aboriginal Site Database Area are outlined in Appendix 7, and summarised in Tables 13-25.

Within SSD Zone A, *existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance*, impacts have already occurred or would occur under the approved MPO to all 892 Aboriginal sites within this zone. A summary of impacts within Zone A, in relation to site types, is presented in Table 20. Where sites extend over multiple SSD Zones, the summary results are presented in Table 23. This total does not include sites within the currently approved primary disturbance area that will be relinquished under the SSD Approval (refer to Section 9.1.4 and Table 22) or 'non-sites' (although for completeness these are included in the table).

Table 20: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area in relation to SSD Zone A and current status (refer to Appendix 7 for degree of harm and current status for every individual site).

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
SSD Zone A1	**731**						**1**	**65**		**797**
Artefact Scatter	**324**							**24**		**348**
Impacted, not salvaged.	41									41
In situ								24		24
Possibly in situ, or possibly impacted, not salvaged.	12									12
Probably in situ, or possibly impacted, not salvaged.	7									7
Probably in situ, or possibly impacted, not salvaged. Portion may have been salvaged by RPS 2018.	1									1
Probably salvaged by RPS 2018.	6									6
Salvaged by Bengalla (AECOM 2017).	25									25
Salvaged by RPS 2018.	214									214
Salvaged by South East Archaeology, Dec 2018.	14									14
Salvaged by South East Archaeology, December 2018-February 2019.	4									4
Isolated Artefact	**389**						**1**	**40**		**430**
Equates to #37-2-2907. Salvaged by RPS 2018.	1									1
Impacted, not salvaged.	42									42
In situ							1	40		41
MTP-813 (#37-2-3391) salvaged by RPS 2018.	1									1
Possibly in situ, or possibly impacted, not salvaged.	10									10
Possibly salvaged by RPS 2018.	2									2
Probably in situ, or possibly impacted, not salvaged.	32									32
Probably salvaged by RPS 2018.	1									1
Probably salvaged by South East Archaeology, December 2018.	1									1
Salvaged by Bengalla (AECOM 2017).	26									26
Salvaged by RPS 2018.	251									251
Salvaged by South East Archaeology, Dec 2018.	22									22

Table 20 (continued):

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
Non-Site	**14**									**14**
No further action required.	14									14
Open Artefact Site	**2**									**2**
Salvaged by RPS 2018.	2									2
Scarred Tree	**2**									**2**
Impacted, not salvaged.	1									1
Possibly in situ, or possibly impacted, not salvaged.	1									1
Spiritual Place								**1**		**1**
No further action required.								1		1
SSD Zone A2	**3**							**109**		**112**
Artefact Scatter								**49**		**49**
Conservation Area C								16		16
In situ								33		33
Isolated Artefact								**60**		**60**
Conservation Area C								3		3
In situ								57		57
Non-Site	**3**									**3**
No further action required.	3									3
Grand Total	**734**	**0**	**0**	**0**	**0**	**0**	**1**	**174**	**0**	**909**

* Refer to Table 23 for sites that extend across multiple SSD Zones.
* Refer to Table 13 for discussion of 'n/a' for degree of harm.

SSD Zone A1 includes those areas subject to previous heritage surveys and covered by an existing AHIP. A total of 783 of the sites to be impacted are situated in Zone A1. As is evident in Table 20, the vast majority of these sites (approximately 568) have been subject to heritage salvage (RPS 2018, AECOM 2017 and Kuskie 2020). Where sites remain *in situ* (current status), salvage is intended to be undertaken in accordance with the relevant approved AHIP (66 sites).

For a number of other sites, particularly the previously recorded sites that were not included in the RTCA Aboriginal Site Database (refer to Sections 3.1 and 3.2.1), there is uncertainty about the current status of several of these, and whether any salvage and/or unmitigated impacts occurred under an AHIP. MACH has reported this issue to Heritage NSW (former OEH / BCD) and Heritage NSW has endorsed the strategy of unmitigated impact where impacts have already occurred under an AHIP, and further investigation (involving on-site inspection) and management under the existing AHIPs (for example, with surface collection) prior to impacts occurring where the sites remain *in situ*. As discussed in Section 3.1, these sites have also been added to the Revision 4 MPO Aboriginal Site Database and Aboriginal Site Recording Forms have been lodged with Heritage NSW to facilitate the registration of these sites on AHIMS.

SSD Zone A2 includes those areas subject to previous heritage surveys but not covered by an existing AHIP. All 109 of the sites to be impacted within Zone A2 are currently *in situ* and have not been salvaged (as they are not covered by a valid AHIP) (refer to Table 20). Many of these sites are situated within the previously proposed location of Conservation Area C (refer to Figure 52). As discussed above, MACH will seek alternative options for the provisional 235 hectare Conservation Area C (and also the 150 hectare provisional Conservation Area B). These options are yet to be subject to investigation or assessment (recommendations are presented to address this in Section 11).

The SSD Project represents an increase in impacts to Aboriginal sites located in the current provisional Conservation Area C, as outlined in Tables 20-23 and Appendix 7. While a portion of the provisional location of Conservation Area C with approximately 19 sites corresponds (inconsistently) with approved development impacts in Zone A2 (refer to Figure 52), a portion with approximately 34 sites corresponds to areas of proposed additional primary impacts from the SSD Project (SSD Zone B2) and the remainder (at least approximately 114 sites) will change status from 'Conservation' to 'SSD Zone C' in which only small-scale (if any) impacts will occur (refer to Section 9.1.2). Increases, reductions and offsetting of impacts from the SSD Project are discussed further in Sections 9.1.4 – 9.1.6.

The change arising from the SSD Project for the *in situ* sites in SSD Zone A2 is that they would now be subject to salvage and impacts under the SSD Approval, rather than under the current MPO Development Consent DA 92/97 and any new AHIP under the NP&W Act. Essentially this is an administrative change, not a change to the level of impacts between the approved MPO and the SSD Project. It is understood that the extent of the existing AHIP areas related to the staging of development impacts. These sites are located in areas for which primary disturbance is currently approved under the MPO Development Consent DA 92/97 and it is understood that future AHIP applications would have been lodged (but would now not be needed after SSD Approval).

A number of salient observations can be made about the *current status* of the Aboriginal sites within the SSD Area:

- Open artefact sites often extend over broad areas of land, and therefore some sites occur within multiple SSD Zones and/or may have only partially been salvaged at present under existing AHIPs (noting that these AHIPs have geographic extents which do not cover all of the currently approved primary disturbance areas – refer to Figure 4);

- This assessment of *current status* is based on a MACH supplied aerial photograph dated 29 June 2019, and the rapid progress of works for the approved MPO mean that in the intervening period of time between the photograph date and the present date, the current status of some sites may have changed (notwithstanding, the management strategy, level of impacts and level of consequent impacts would not change);

- Investigation of the current status of the previously recorded sites that were not included in the RTCA Aboriginal Site Database (including any on-ground truthing of actual impacts compared with potential impacts as inferred here from inspection of the 29 June 2019 aerial photograph) is an ongoing process prior to ground disturbance and therefore the current status of some of these sites may be different to that initially assessed here. Hence, the current status of several sites is recorded as 'probably *in situ*', 'possibly *in situ*' and/or 'probably impacted'; and

- The previously recorded sites that were not included in the RTCA Aboriginal Site Database in some cases may partially or wholly overlap with sites that were subsequently recorded in the MPO during other surveys and were listed on the Site Database, including sites subject to salvage, hence the current status of several sites as 'probably salvaged' or 'possibly salvaged'.

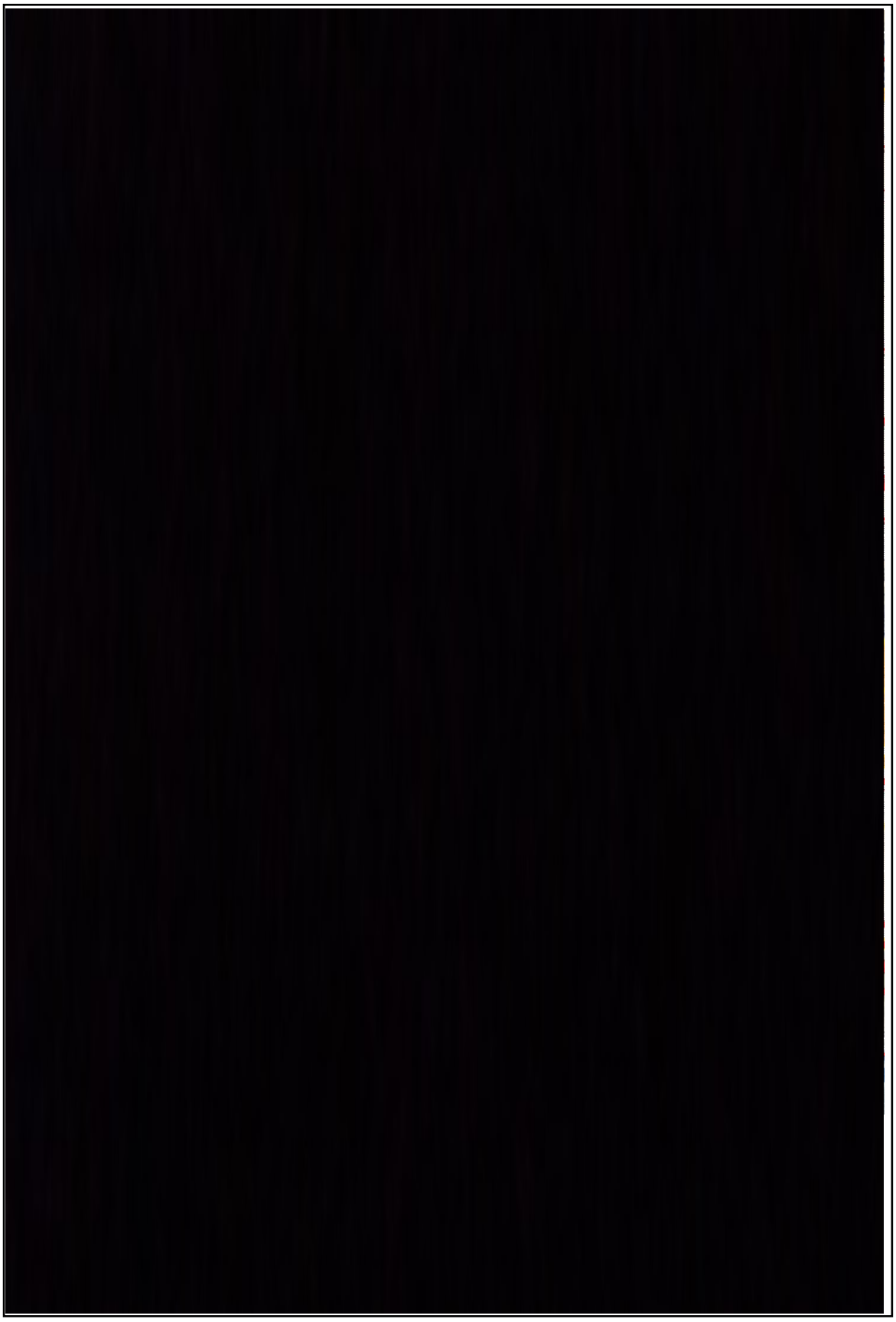


Figure 52: Approved Conservation Area, provisional Conservation Areas B and C and currently approved and proposed SSD primary disturbance areas, with Aboriginal site locations (one kilometre MGA grid; aerial photograph courtesy MACH).

Within SSD Zone B, *areas in which additional SSD primary disturbance is proposed* (refer to Figures 6 and 53), additional primary impacts are proposed to occur to approximately all 132 Aboriginal sites within this zone (although 48 of these have already been subject to heritage salvage under existing AHIPs). A summary of impacts within Zone B, in relation to site types, is presented in Table 21. Where sites extend over multiple SSD Zones, the summary results are presented in Table 23. This total does not include 'non-sites' (although for completeness these are included in the table). Figure 53 shows the location of Aboriginal sites with respect to Zones B1-B4 (prior to the conduct of the current survey).

SSD Zone B1 includes additional primary disturbance areas subject to previous heritage surveys and covered by an existing AHIP. A total of 83 of the sites to be impacted are situated in Zone B1. However, as is evident in Table 21, more than half of these sites (approximately 48) have already been subject to heritage salvage (RPS 2018, AECOM 2017 and Kuskie 2020) under existing approved AHIPs. Where sites remain *in situ* (current status), salvage is intended to be undertaken consistent with the relevant approved AHIP or post-SSD Approval, in accordance with a revised AHMP.

For a low number of other sites, particularly the previously recorded sites that were not included in the RTCA Aboriginal Site Database (refer to Sections 3.1 and 3.2.1), there is uncertainty about the current status of these, and whether any salvage and/or unmitigated impacts occurred under an AHIP. As noted above, MACH has reported this issue to Heritage NSW which have endorsed the strategy of unmitigated impact where impacts have already occurred under an AHIP, and further investigation (involving on-site inspection) and management under the existing AHIPs (for example, with surface collection) prior to impacts occurring where the sites remain *in situ*. As discussed in Section 3.1, these sites have also been added to the Revision 4 MPO Aboriginal Site Database and Aboriginal Site Recording Forms have been lodged with Heritage NSW to facilitate the registration of these sites on AHIMS.

SSD Zone B2 includes those additional primary disturbance areas subject to previous heritage surveys but not covered by an existing AHIP. All 38 of the sites to be impacted within Zone B2 are currently *in situ* and have not been salvaged (as they are not covered by a valid AHIP) (refer to Table 21). Many of these sites are in the previously proposed location of Conservation Area C (refer to Figure 52). These sites would now be subject to impacts and represent an increase in impacts on Aboriginal heritage from the SSD Project.

SSD Zone B3 includes those additional primary disturbance areas not subject to previous heritage surveys but covered by an existing AHIP (partial survey coverage of this area was achieved during the present survey). The two sites to be impacted within Zone B3 are currently *in situ* and have not been salvaged (refer to Table 21). These sites would now be subject to impacts and represent an increase in impacts on Aboriginal heritage from the SSD Project.

SSD Zone B4 includes those additional primary disturbance areas not subject to previous heritage surveys or an existing AHIP (partial survey coverage of this area was achieved during the present survey). All eight sites to be impacted within Zone B4 are currently *in situ* and have not been salvaged (as they are not covered by a valid AHIP) (refer to Table 21). These sites would now be subject to impacts and represent an increase in impacts on Aboriginal heritage from the SSD Project.



Figure 53: SSD Zones B1-B4 and location of Aboriginal sites (one kilometre MGA grid; aerial photograph courtesy MACH).

Table 21: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area in relation to SSD Zone B and current status (refer to Appendix 7 for degree of harm and current status for every individual site).

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
SSD Zone B1	**62**				**1**			**23**		**86**
Artefact Scatter	**25**				**1**			**10**		**36**
In situ					1			10		11
Possibly in situ, or possibly impacted, not salvaged.	4									4
Salvaged by Bengalla (AECOM 2017).	2									2
Salvaged by RPS 2018.	14									14
Salvaged by South East Archaeology, Dec 2018.	2									2
Salvaged by South East Archaeology, December 2018-February 2019.	3									3
Isolated Artefact	**35**							**12**		**47**
Impacted, not salvaged.	1									1
In situ								12		12
Possibly in situ, or possibly impacted, not salvaged.	7									7
Salvaged by Bengalla (AECOM 2017).	1									1
Salvaged by RPS 2018.	24									24
Salvaged by South East Archaeology 2018.	1									1
Salvaged by South East Archaeology, Dec 2018.	1									1
Non-Site	**2**									**2**
No further action required.	2									2
Scarred Tree and Isolated Artefact								**1**		**1**
In situ								1		1
SSD Zone B2	**1**							**38**		**39**
Artefact Scatter								**25**		**25**
Conservation Area C								23		23
In situ								2		2
Isolated Artefact								**13**		**13**
Conservation Area C								11		11
In situ								2		2
Non-Site	**1**									**1**
No further action required.	1									1

Table 21 (continued):

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
SSD Zone B3								**2**		**2**
Isolated Artefact								**2**		**2**
In situ								2		2
SSD Zone B4								**8**		**8**
Artefact Scatter								**1**		**1**
In situ								1		1
Isolated Artefact								**6**		**6**
In situ								6		6
Open Artefact Site								**1**		**1**
In situ								1		1
Grand Total	**63**	**0**	**0**	**0**	**1**	**0**	**0**	**71**	**0**	**135**

* Refer to Table 23 for sites that extend across multiple SSD Zones.
* Refer to Table 13 for discussion of 'n/a' for degree of harm.

9.1.2 Small-Scale Low-High Level Impacts (Minor Disturbance)

Within SSD Zone C, *remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design* (ie. the entire SSD Area excluding SSD Zones A and B), it is anticipated that the majority of this area will not be subject to development impacts. Where impacts do occur, they are likely to be minor in extent and potentially with some flexibility in location. Impacts within Zone C are subject to future detailed design and may relate to activities such as infrastructure relocation, ancillary infrastructure, exploratoration activities and environmental monitoring.

A summary of impacts within Zone C, in relation to site types, is presented in Table 22. Where sites extend over multiple SSD Zones, the summary results are presented in Table 23. As is evident from Table 22, a total of 481 sites located within Zone C may be subject to possibly total, partial or no impacts (subject to the future detailed design and location and nature of works). This total does not include 'non-sites' (although for completeness these are included in the Table).

Approximately 114 of these sites are situated within the provisional location of Conservation Area C (refer to Figure 52). As discussed in Section 9.1.1, for the SSD Project this represents a possible increase in impacts for these sites as their status would change from 'Conservation' to 'SSD Zone C'.

Approximately 209 sites within Zone C have already been subject to heritage salvage (RPS 2018, AECOM 2017 and ENSR 2008) under existing approved AHIPs. Many of these sites (approximately 94) have been salvaged by Bengalla Mine. Effectively, even if impacts were now to occur from the SSD Project, the sites have been salvaged and therefore any impacts wouldn't necessarily result in a change from the level of impacts of the approved MPO compared to the SSD Project. Approximately seven sites appear to have been subject to unmitigated impacted by Bengalla Mine.

Many sites within Zone C remain *in situ* (approximately 358 sites, along with another approximately 114 within the provisional Conservation Area C). Of these, approximately 272 sites are located in SSD Zones A1R, A2R and A4R, within the currently approved primary disturbance area that will be relinquished under the SSD Approval (refer to Figure 2). However, it is possible that impacts may still occur to these sites after detailed design of minor works. Additionally, future modifications to the MPO within this area cannot be discounted. Hence, these sites are regarded as a 'possible no change or decrease' in impacts from the currently approved MPO to the SSD Project.

Approximately eight scarred trees have been reported in Zone C, which require reassessment as to the nature of the origin of the scars. Based on the results of investigations to date (Kuskie 2017a-c, 2019, Burns 2017a-c, GSS 2019), it is possible that few, if any, of these scars may be of Aboriginal origin.

Measures are proposed in Sections 10 and 11 to further investigate, mitigate, avoid and minimise any potential impacts within SSD Zone C.

9.1.3 Low-High Level Continuing Land-Use Impacts

Continuation of existing land-use practices, mostly relating to the maintenance and use of the vehicle tracks and power easements and pastoral/rural use of land, for both the MPO, SSD Project and non-Project related purposes, may also result in impacts to *in situ* Aboriginal heritage evidence within the SSD Area and therefore requires management consideration.

Although the level of potential impacts is generally unlikely to be different or greater than previous impacts which have occurred over several centuries of non-indigenous occupation, management strategies can be implemented to ensure that significant additional impacts do not occur, or that inadvertent impacts do not occur to heritage sites of significance.

Measures are proposed in Sections 10 and 11 to further investigate, mitigate, avoid and minimise these potential impacts where relevant.

9.1.4 Reductions of Impacts

As discussed above, some reductions of impacts may arise through the SSD Project in several circumstances.

A total of 272 *in situ* sites in SSD Zones A1R, A2R and A4R, within the currently approved primary disturbance area that will be relinquished under the SSD Approval and therefore becomes SSD Zone C, may be subject to no change or a decrease in impacts from the SSD Project compared to the currently approved MPO. Until detailed design of future minor works occurs, it cannot be known if individual sites will be subject to impacts.

Approximately 95 sites are located outside of the SSD Area and may comprise a reduction in impacts from the SSD Project compared to the currently approved MPO, as they were previously located within the MPO approved Development Consent boundary. However, 51 of these sites have been salvaged by Bengalla (AECOM 2017, ENSR 2008), including at least 30 within the Bengalla Mine approved disturbance boundary. A further 42 of these sites are located within the Bengalla Mine approved disturbance boundary and may therefore be subject to impacts from the Bengalla project.

9.1.5 Offsetting of Impacts

As discussed above, the impacts associated with the approved MPO are currently addressed by the AHMP and also through three existing and provisional Conservation Areas (refer to Figure 52).

The existing MPO and the SSD Project will see the retention of the approved Conservation Area A, located immediately west of the SSD Area, an area of approximately 329 hectares hosting approximately 65 Aboriginal open artefact sites. Retention of the existing Conservation Area A will continue to offset to some extent the *approved* impacts of the MPO and *additional* impacts of the SSD Project on Aboriginal heritage.

Approximately 150 hectares had been identified under the existing MPO Development Consent as a potential future conservation area subject to further consideration (Conservation Area B), west of the SSD Area. This area hosts approximately 29 Aboriginal open artefact sites. In order to resolve long-term management issues associated with overlapping/ neighbouring projects, MACH intends to seek an alternative option for the provisional Conservation Area B. Should an alternative Conservation Area be established, this may also act as an offsetting measure for the *approved* and *additional* impacts of the SSD Project on Aboriginal heritage. However, investigation and assessment of an alternative conservation outcome has yet to occur.

Approximately 235 hectares had been identified under the existing MPO Development Consent as a provisional conservation area for the post-2020 development at the MPO (Conservation Area C), within the SSD Area. Subject to the outcome of consideration of alternative conservation areas, MACH was intending to seek to secure Conservation Area C within 12 months of the commencement of disturbance activities associated with the post-2020 development. However, in order to resolve long-term management issues associated with overlapping/neighbouring projects and to address the components of the SSD Project (including the approved disturbance area inconsistently overlapping a portion of the current provisional location of Conservation Area C), MACH intends to seek an alternative option for Conservation Area C. Should an alternative Conservation Area be established, this would act as an additional measure to counterbalance the *approved* and *additional* impacts of the SSD Project on Aboriginal heritage. However, investigation and assessment of an alternative conservation outcome has yet to occur.

As the currently designated location of the provisional Conservation Area C is situated within the SSD Area, for now the SSD Project represents an increase in impacts to Aboriginal heritage, as the sites change in status from ‘Conservation’ to ‘SSD Zone C’ in which small-scale impacts may occur. Although a portion of Conservation Area C with approximately 19 sites corresponds (inconsistently) with approved development impacts in Zone A2 (refer to Figure 52), another portion with approximately 34 sites corresponds to areas of proposed additional primary impacts from the SSD Project (SSD Zone B2) and the remainder (at least approximately 114 sites) will change status from ‘Conservation’ to ‘SSD Zone C’. Hence, the removal of the provisional Conservation Area C will represent an increase in impacts to Aboriginal heritage from the SSD Project. Establishment of a suitable alternative for Conservation Area C would represent an important outcome in counterbalancing the impacts of the SSD Project and approved MPO (refer to Sections 10 and 11).

Table 22: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area in relation to SSD Zone C and current status (refer to Appendix 7 for degree of harm and current status for every individual site).

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
SSD Zone C	**218**					**209**				**427**
Artefact Scatter	**108**					**112**				**220**
Conservation Area C						72				72
Equates to #37-2-3265. Salvaged by RPS 2018.	1									1
Impacted (by Bengalla), not salvaged.	2									2
In situ						40				40
Salvaged by Bengalla (AECOM 2017).	44									44
Salvaged by Bengalla (AECOM 2017), RPS 2018.	1									1
Salvaged by ENSR 2008.	1									1
Salvaged by ENSR 2008. On margin of SSD Area.	1									1
Salvaged by RPS 2018.	58									58
Isolated Artefact	**99**					**86**				**185**
Conservation Area C						40				40
Impacted (by Bengalla), not salvaged.	5									5
In situ						44				44
In situ. AHIP says impacts must be avoided.						1				1
Possibly salvaged by Bengalla.						1				1
Salvaged by Bengalla (AECOM 2017).	42									42
Salvaged by ENSR 2008.	2									2
Salvaged by RPS 2018.	50									50
Non-Site	**7**									**7**
Conservation Area C. No further action required.	1									1
No further action required.	6									6
Open Artefact Site	**4**					**2**				**6**
Conservation Area C						1				1
In situ						1				1
Salvaged by Bengalla (AECOM 2017).	1									1
Salvaged by ENSR 2008.	2									2
Salvaged by RPS 2018.	1									1

Table 22 (continued):

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
Scarred Tree						**9**				**9**
Conservation Area C						1				1
Requires scarred tree reassessment.						8				8
SSD Zone A1R - C	**7**					**49**				**56**
Artefact Scatter						**29**				**29**
In situ						29				29
Isolated Artefact	**5**					**20**				**25**
In situ						20				20
Salvaged by RPS 2018.	5									5
Non-Site	**2**									**2**
No further action required.	2									2
SSD Zone A2R - C	**5**					**221**				**226**
Artefact Scatter						**117**				**117**
In situ						117				117
Isolated Artefact						**104**				**104**
In situ						104				104
Non-Site	**5**									**5**
No further action required.	5									5
SSD Zone A4R - C						**2**				**2**
Isolated Artefact						**2**				**2**
In situ						2				2
Grand Total	**230**	**0**	**0**	**0**	**0**	**481**	**0**	**0**	**0**	**711**

* Refer to Table 23 for sites that extend across multiple SSD Zones.
* Refer to Table 13 for discussion of 'n/a' for degree of harm.

Table 23: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area in relation to sites that extend across multiple SSD Zones (refer to Appendix 7 for degree of harm and current status for every individual site).

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
SSD Zone A1 and Zone C			**1**							**1**
Artefact Scatter			**1**							**1**
Possibly partially in situ and partially impacted, not salvaged.			1							1
SSD Zone A1 or Outside SSD Area	**1**									**1**
Artefact Scatter	**1**									**1**
Salvaged by Bengalla (AECOM 2017).	1									1
SSD Zone B1 and Zone C									**1**	**1**
Artefact Scatter									**1**	**1**
In situ									1	1
SSD Zone B4 and Zone C					**1**					**1**
Open Artefact Site					**1**					**1**
In situ					1					1
SSD Zone C and Zone B2					**1**					**1**
Artefact Scatter					**1**					**1**
Conservation Area C					1					1
SSD Zone C or Outside SSD Area	**5**									**5**
Artefact Scatter	**3**									**3**
In situ	1									1
Salvaged by Bengalla (AECOM 2017).	2									2
Isolated Artefact	**2**									**2**
Salvaged by Bengalla (AECOM 2017).	2									2
SSD Zones A, B and C									**1**	**1**
Artefact Scatter									**1**	**1**
In situ									1	1
SSD Zones A1, A2, A2R, B1, B2 and C						**1**				**1**
Artefact Scatter						**1**				**1**
In situ						1				1
SSD Zones A2, B2 and C									**1**	**1**
Artefact Scatter									**1**	**1**
Conservation Area C									1	1

Table 23 (continued):

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
Conservation Area A and SSD Zone C	**1**			**1**						**2**
Artefact Scatter				**1**						**1**
Conservation Area A and Conservation Area C				1						1
Artefact Scatter with PAD	**1**									**1**
Partially within Conservation Area A, partly AHIP 2053. Partly salvaged by RPS (2018)	1									1
Grand Total	**7**	**0**	**1**	**1**	**2**	**1**	**0**	**0**	**3**	**15**

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

Table 24: Summary of degree of harm of potential direct impacts of the SSD Project for each Aboriginal site type within the MPO Aboriginal Site Database Area in relation to Conservation Area A and current status (refer to Appendix 7 for degree of harm and current status for every individual site).

SSD Zone / Site Type / Current Status	N/A	None	Partial	Possibly partial or none	Possibly total or partial	Possibly total, partial or none	Probably total	Total	Total or partial	Total
Conservation Area A Total	**6**	**64**								**70**
Artefact Scatter		**32**								**32**
Conservation Area A		32								32
Artefact Scatter with PAD		**12**								**12**
Conservation Area A		12								12
Isolated Artefact		**16**								**16**
Conservation Area A		16								16
Isolated Artefact with PAD		**4**								**4**
Conservation Area A		4								4
Non-Site	**6**									**6**
Conservation Area A. No further action required.	6									6

* Refer to Table 13 for discussion of 'n/a' for degree of harm.

9.1.6 Summary of SSD Project Impact Increases, Reductions and Offsets

The transition from the existing MPO Development Consent DA 92/97 to an SSD Approval would involve an administrative change with respect to Aboriginal cultural heritage, whereby management of identified and potential heritage would transition from the AHIP system (under Section 90 of the NP&W Act) to a revised AHMP (which would provide an exemption to Section 90 of the NP&W Act).

However, a number of material changes would occur as a result of the SSD Project, including:

- The SSD Area of 5,349 hectares differs in places from the larger approved MPO area of 5,439 hectares (refer to Figure 8), with a consequent potential reduction in impact for Aboriginal sites located within the portions of the approved MPO area now excluded from the SSD Area;
- The SSD Project would result in additional primary disturbance across an area of approximately 504 hectares within the SSD Area (SSD Zone B, refer to Figure 53);
- The SSD Project may result in reductions in impacts, within SSD Zones A1R, A2R and A4R, those currently approved primary disturbance areas that will be relinquished under the SSD Approval and become SSD Zone C (with potential minor impacts only, not primary disturbance); and
- The SSD Project would result in changes to conservation areas associated with the MPO Development Consent DA 92/97, with alternative options to be sought for the provisional Conservation Areas B and C, and a consequent increase in impacts within the former Conservation Area C (SSD Zones C, A2 and B2).

Other salient issues to consider in any assessment of impacts and management strategies (refer to Sections 10 and 11) include:

- Extensive heritage survey coverage has been achieved across the SSD Area, including across almost all areas in which additional primary disturbance is proposed under the SSD Project (SSD Zone B, refer to Figures 4 and 5 and Section 3), with only 14 hectares of proposed primary disturbance not surveyed due to access restrictions. Although almost all of this survey coverage was achieved prior to 2010 (refer to Section 3.2.1), the impacts have been reassessed here in accordance with the requirements of the BCD (now Heritage NSW) in the SEARs (Appendix 2) and it is noted that AHIPs issued by the OEH (now Heritage NSW) are in force over much of this area;
- Many of the identified Aboriginal heritage sites situated within approved impact areas have already been subject to salvage and/or impacts (refer to Figure 3);
- The Bengalla Mine approved disturbance area overlaps a portion of the SSD Area (refer to Figure 2) and therefore heritage salvages and development impacts have and may continue to occur to Aboriginal sites within this portion of the SSD Area under the Bengalla approval;
- Three currently approved AHIPs cover much of the MPO area (refer to Figure 5) which allow impacts to all Aboriginal heritage evidence (excluding skeletal remains) within those areas;

- The model of Aboriginal occupation for the locality (refer to Section 3.4) indicates that much of the SSD Area is located in contexts that do not conform to primary or secondary resource zones, in which occupation is more likely to have been of a generally low intensity and related to hunting and gathering activities, transitory movement and procurement of stone materials. The evidence identified during the extensive surveys across the MPO (refer to Section 3.2.1) is consistent with this model and overwhelmingly of low density open artefact evidence representative of background discard, with a low number of activity areas. The identified evidence across the MPO simply represents the 'windows of visibility' (created by erosion or other ground disturbance) into a resource that comprises a virtually continual distribution of artefacts across the landscape at varying densities. Only small portions of the SSD Area, adjacent to the Hunter River, are located within what could be classified as a primary resource zone under the model, in which more focused occupation involving encampments, events of longer duration or involving larger numbers of people may have occurred;

- The predictive model of Aboriginal site location (refer to Section 3.5), particularly relevant to SSD Zones B and C, indicates that apart from a widespread generally low to very low density distribution of artefacts and possibly lithic quarry evidence, other site types such as bora/ceremonial sites, carved trees, scarred trees, burials, grinding grooves, shelters and stone arrangements have a very low or low potential to occur; and

- The evidence from the SSD Area is typical of that from the Central Lowlands of the Hunter Valley, and no specific aspects of the evidence appear to be rare or unusual or not replicated elsewhere within a regional context.

The interplay of these issues is complex, and while discussed in previous sections and summarised in Tables 13-24, the net overall effect of the SSD changes are summarised here in Table 25.

Impacts will also occur to the contemporary cultural values identified by the Aboriginal stakeholders, including those associated with the SSD Area (relating to traditional land use and ongoing cultural and spiritual connections to the land and resources of the area), use of subsistence and other resources, and those associated with the Aboriginal objects/sites. However, no specific sites or cultural areas of intangible cultural heritage significance were identified that require specific impact assessment or mitigation measures.

Measures are proposed in Sections 10 and 11 to further investigate, mitigate, avoid and minimise these potential impacts.

9.2 Regional Context and Cumulative Impacts

An objective of the NP&W Act (Section 2A) is the "conservation of objects, places or features … of cultural value within the landscape, including, but not limited to … places, objects and features of significance to Aboriginal people …". This objective is to be achieved by applying the principles of ecologically sustainable development (Section 2A), defined in Section 6 of the *Protection of the Environment Administration Act 1991* as requiring the integration of *economic* and *environmental* and *social* considerations (including cultural heritage) in the decision-making process. In regard to Aboriginal cultural heritage, ecologically sustainable development can be achieved by applying the principle of intergenerational equity and the precautionary principle (DECCW 2009b), which are discussed in Section 8.2.

Table 25: Summary of changes in impacts associated with the SSD Project compared to the approved MPO for Aboriginal sites within the MPO Aboriginal Site Database Area (refer to Appendix 7 for details for every individual site).

SSD Change	Number of Items*	Comments
"Conservation", to be offset elsewhere, to "avoid impacts"	29	Provisional Conservation Area B, outside SSD Area, to be offset in another location and/or manner.
Increase	89	Mostly sites in SSD Zone B, a number with an approved AHIP for surface collection, others proposed for mitigation of impacts consistent with other similar sites. Only two sites of moderate or higher significance (where assessed). Several sites require significance assessment. Provisional Conservation Area C to be offset in another location and/or manner.
N/A	41	Not Aboriginal sites.
No change or increase	19	All in SSD Zone A2. Only two sites of moderate or higher significance (where assessed). Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner. Several sites require significance assessment.
No change	1145	Primarily SSD Zone A and mostly sites salvaged under the existing approval. A number of sites *in situ* with surface collection approved under an AHIP. Other sites outside of existing AHIP areas require mitigation of impacts, consistent with similar sites. A number of sites subject to unmitigated impact. Only six sites of moderate or higher significance (where assessed).
No change. Outside SSD Area	64	Approved Conservation Area A.
Possibly no change or decrease	272	Approved disturbance areas in Zone A to be relinquished under SSD. Becomes SSD Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites. All sites of low significance (where assessed). Several sites require significance assessment and other sites have been recommended for excavation.
Possibly no change or increase	211	SSD Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Fourteen sites of moderate or higher significance (where assessed). Several sites require significance assessment.
Reduced impact	95	Outside SSD Area.
Total	**1965**	

Hence, the extent to which the heritage resource present within the SSD Area may exist elsewhere in the region is therefore highly relevant to an assessment of the potential impacts of the SSD Project with respect to the principles of ecologically sustainable development, intergenerational equity and the precautionary principle, along with the significance assessment of the sites (representative value) and an assessment of the cumulative impacts of the SSD Project.

An analysis of the evidence from the SSD Area within a regional context has been undertaken (refer to Section 5.3.5). However, there are various problems and constraints that limit comparison of the evidence within a regional context. Notable constraints to the assessment are the absence of quantitative baseline data from the region and the problems inherent with the quality and suitability of information from existing studies. No regional heritage assessments have been undertaken to any level of detail sufficient to provide suitable quantitative or baseline data for comparison.

Two avenues of inquiry can be pursued, as to whether similar heritage resources to those identified within the SSD Area exist elsewhere within the region:

1) By comparison of the *identified resource* with other heritage studies in the region and known site databases; and

2) By examination of topographic mapping and aerial photographs to identify if comparable environmental contexts exists elsewhere in the region, in which a similar *potential resource* may occur.

The identified heritage resource of the SSD Area has been analysed in a regional context in Section 5.3.5.

There are numerous similarities with other reported evidence in the locality and in the region including the nature of site types recorded, comparable low numbers of artefacts within individual site loci, low mean density of artefacts, evidence in similar landform units, focus of evidence on areas of level to gentle rather than moderate or steep gradient, similar range of stone materials with dominance of silcrete and tuff, similar range of artefact types with dominance of flakes, flake portions and lithic fragments, predominance of evidence relating to non-specific stone flaking, low frequencies of evidence relating to non-microlith and microlith tool use, generally small size of artefacts and estimated late Holocene antiquity of evidence. Similar contemporary cultural values have been identified by the Aboriginal stakeholders in many other investigation areas.

In broad terms, the evidence from the SSD Area is typical of that from the Central Lowlands of the Hunter Valley. No specific aspects of the SSD Area evidence appear to be rare or unusual or not replicated elsewhere within a regional context.

The primary potential resource of the SSD Area relates to stone artefacts within open context sub-surface deposits, particularly within SSD Zones B and C.

The investigation results and occupation model indicate that while there is potential for stone artefacts to occur in a widespread distribution of variable density across virtually all landform units, this resource will predominantly comprise a low to very low density distribution consistent with background discard. The potential for sub-surface deposits of artefacts that may be of high research value to occur is generally low, apart from in small portions of the SSD Area adjacent to the Hunter River, which may represent a primary resource zone and could exhibit a higher artefact density and potentially deposits of some research significance if more focused occupation and/or repeated occupation has occurred.

Extensive investigations elsewhere in the Central Lowlands demonstrate that such a resource is very widespread. As such, any impacts to this resource within the SSD Area will have limited impact upon the overall potential resource of the region. Similar environmental contexts (and potential resources) are present within the adjacent locality and within the wider region.

Hence, analysis of the potential resource in the region supports the conclusions above that the *additional* impacts of the SSD Project on Aboriginal heritage (additional to those already approved through the MPO) would be very low within a regional context.

Following a conclusion that the additional impacts of the SSD Project would be very low within a regional context, it logically follows that the cumulative impact of the SSD Project within a regional context (in combination with other mining projects in the region) would be very low. The additional primary disturbance associated with the SSD Project (SSD Zone B) is relatively small in area, even compared to the approved MPO development.

The SSD Project is not inconsistent with the principle of intergenerational equity as outlined in Section 8.2. With the implementation of the mitigation measures as outlined in Sections 10 and 11, the SSD Project would not cause, within a regional context, a loss of heritage resources that could be viewed as being very rare or unique or unlikely to exist elsewhere.

In relation to the precautionary principle (refer to Section 8.2), the comprehensive nature of the archaeological surveys and assessments across the SSD Area and consultation processes have substantially reduced the risk of lack of scientific certainty. Only 2.7% of the additional primary disturbance area (SSD Zone B) has not been subject to heritage survey. Measures are proposed in Sections 10 and 11 to obtain survey coverage of this area, and any other impact areas that have not been surveyed (such as within SSD Zone C, after detailed design of minor works) prior to development impacts occurring.

10. POTENTIAL MITIGATION AND MANAGEMENT STRATEGIES

10.1 General Strategies

General strategies for the management of the identified and potential Aboriginal heritage resources and cultural areas/values within the SSD Area are presented below. Specific options are discussed in Section 10.2 and the recommended strategies are presented in Section 11.

A key consideration in selecting a suitable strategy is the recognition that Aboriginal heritage is of primary importance to the local Aboriginal community, and that decisions about the management of the sites should be made in consultation with the Registered Aboriginal Parties.

10.1.1 Strategy A (Further Investigation)

In circumstances where an Aboriginal heritage site is identified (particularly an open artefact site or rock shelter), but the extent of the site, the nature of its contents, its level of integrity and/or its level of significance cannot be adequately assessed solely through surface survey (generally because of conditions of low surface visibility or sediment deposition), sub-surface testing may be an appropriate strategy to further assess the site. Sub-surface testing may also be appropriate in locations where artefact deposits are predicted to occur (for example, in rock shelters or in open contexts) through application of a predictive model, in order to identify whether such deposits exist and their nature, extent, integrity and significance.

Test excavations can take the form of auger holes, shovel pits, mechanically excavated trenches or surface scrapes. The selection of a methodology (including a sampling strategy) is a process that involves (Boismier 1991):

1) Identification of the specific environmental/cultural characteristics of the investigation area;

2) Construction of a model of Aboriginal occupation for the locality;

3) Definition of the expected nature and distribution of evidence (predictive model);

4) Formation of research questions and a methodology to retrieve the required data/evidence, in consideration of the expected nature and distribution of evidence; and

5) Analytical techniques for the evidence recovered that are appropriate to address the research questions and project objectives.

A Section 90 AHIP is not required for test excavations undertaken in compliance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b), although implementation of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy (DECCW 2010c) is required.

However, under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, archaeological test excavation is necessary when (regardless of whether or not there are objects present on the ground surface) it can be demonstrated through Requirements 1, 2, 3, 4, and 5 of the Code that sub-surface Aboriginal objects with potential conservation value have a high probability of being present in an area, and the area cannot be substantially avoided by the proposed activity.

A Section 90 AHIP is also generally not required under Section 4.41 of the EP&A Act (or under Section 75U{4}of the former Part 3A), for any investigative or other activities required to be carried out for the purpose of complying with environmental assessment requirements issued in connection with a development application for State Significant Development.

In all other circumstances a Section 90 AHIP is normally required from Heritage NSW (former OEH) to undertake sub-surface testing. Heritage NSW determination of AHIP applications is guided by the *Guide to Aboriginal Heritage Impact Permit Processes and Decision-Making* policy (OEH 2011c).

This is a pro-active strategy, which should result in the identification, assessment and management of the Aboriginal heritage resource prior to any development activity occurring. Following assessment of each Aboriginal site, management strategies as outlined in Sections 10.1.2 - 10.1.5 can be applied.

Several other aspects of the potential heritage resource may require consideration as to whether further investigation is necessary as part of the Environmental Assessment stage or post-approval stage. These include areas that were not sampled during the assessment (for example, due to property access restrictions) or for which subsequent design changes may occur. Typically, small areas or modifications can satisfactorily be addressed in a post-approval management plan.

10.1.2 Strategy B (Conservation)

Conservation is a suitable strategy for all heritage sites, but particularly those of high archaeological significance and/or high cultural significance. Conservation is also appropriate for specific archaeological resources and environmental/cultural contexts, as part of a regional strategy aimed at conserving a representative sample of identified and potential heritage resources.

Options exist within development proposals that can be utilised for the conservation of identified or potential Aboriginal heritage resources, including exclusion of development from zones of high heritage significance or potential, preservation of areas within formal conservation zones, or the re-design of works to avoid or minimise impacts to specific areas.

In the case of surface impacts, options for conservation include re-routing linear impact zones (such as proposed roads or pipelines) to avoid identified sites or areas of significance, relocating minor surface infrastructure (such as boreholes) where feasible to avoid identified sites of significance, and/or altering construction methods to minimise the surface impact area within the vicinity of significant sites or potential resources.

In the case of continuing land use, such as the continued use and maintenance of existing roads, the options for conservation tend to be limited. Typically, a similar resource will potentially exist in adjacent, less-disturbed areas, and therefore options such as closing an existing road and constructing a new road are actually likely to result in higher impacts to the heritage resource.

10.1.3 Strategy C (Mitigated Impact)

In circumstances where an Aboriginal site may be of archaeological and/or cultural significance, but the options for conservation are limited and the surface collection of artefacts or excavation of deposits could yield benefits to the Aboriginal community and/or the archaeological study of Aboriginal occupation, mitigation measures (salvage) may be warranted.

Salvage in these circumstances may include the collection of surface artefacts and/or systematic excavation of artefact or midden deposits. Salvage of other site types may also be warranted, for example scarred trees. Salvage of a scarred tree may involve cutting and removing the tree or the portion of the tree containing the scar. Similarly, grinding grooves may be salvaged by removal of the freestanding rock they are situated on, or in the case of grooves on open bedrock, cutting and removing the section of bedrock with the grooves.

The imperative for salvage measures can be assessed in relation to:

- The nature of the identified and expected evidence, its significance and its research potential (ie. the potential for salvage to provide additional, useful evidence that will enhance the overall understanding of the nature of human occupation in the locality);
- The views of the Aboriginal stakeholders, as salvage may be warranted to minimise the impacts of development on the cultural values of the evidence; and
- The extent of potential development impacts on particular sites or potential resources.

Under the terms of the NP&W Act it is an offence to harm or desecrate an object that the person knows is an Aboriginal object, or to harm an Aboriginal object. As such, a Section 90 AHIP must normally be obtained from Heritage NSW (former OEH) prior to impacting any Aboriginal objects, including through mitigation activities. Heritage NSW determination of AHIP applications is guided by the *Guide to Aboriginal Heritage Impact Permit Processes and Decision-Making* policy (OEH 2011c).

A Section 90 AHIP is generally not required for impacts to Aboriginal objects where the project is for State Significant Development under Part 4 of the EP&A Act (such as the current Project), and commitments relating to the management of and mitigation of impacts to Aboriginal heritage *in lieu* of a Section 90 AHIP (typically in the form of an Aboriginal Cultural Heritage Management Plan) are approved by the DPIE and implemented.

Salvage typically involves the development of a detailed research design (including the nature of the methodology and sampling strategy, as discussed in Section 10.1.1). Where an AHIP is required, an Aboriginal heritage impact assessment must be undertaken in accordance with the DECCW (2010b) *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* and Aboriginal community consultation in accordance with the DECCW (2010c) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy.

10.1.4 Strategy D (Unmitigated Impact)

The strategy of unmitigated impact involves the proponent causing impacts to the heritage evidence without any mitigation measures. This strategy is typically suitable when the heritage evidence is of low scientific and cultural significance, the registered Aboriginal parties hold no objections, and it is unfeasible to implement any other strategy.

Under the terms of the NP&W Act it is an offence to harm or desecrate an object that the person knows is an Aboriginal object, or to harm an Aboriginal object. As such, a Section 90 AHIP must normally be obtained from Heritage NSW (former OEH) prior to impacting any Aboriginal objects. Heritage NSW determination of AHIP applications is guided by the *Guide to Aboriginal Heritage Impact Permit Processes and Decision-Making* policy (OEH 2011c).

A Section 90 AHIP is generally not required for impacts to Aboriginal objects where the project is for State Significant Development under Part 4 of the EP&A Act (such as the current Project), and commitments relating to the management of and mitigation of impacts to Aboriginal heritage *in lieu* of a Section 90 AHIP (typically in the form of an Aboriginal Heritage Management Plan) are approved by the DPIE and implemented.

Where an AHIP is required, an Aboriginal heritage impact assessment must be undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and Aboriginal community consultation in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* policy (DECCW 2010c).

10.1.5 Strategy E (Monitoring)

An alternative strategy for zones where archaeological deposits are predicted to occur is to monitor construction, particularly any initial earthmoving and soil removal works, for the presence of artefacts, shell or skeletal remains.

Monitoring is one of the primary strategies for managing the possible occurrence of Aboriginal skeletal remains. Monitoring for the presence of shell and stone artefacts is also often of value to the Aboriginal community, who may be seeking to identify and salvage material that was not visible on the surface during a preliminary study. The sieving of graded deposits is also a practical measure that enhances the benefits of monitoring for artefacts. However, the nature of construction methods (eg. the use of earthmoving machinery to rapidly excavate large quantities of soil) tends to limit the potential for successful identification of heritage evidence during monitoring.

Monitoring for artefacts (in preference to controlled excavation) is not a widely accepted method within the context of a scientific investigation, because it could result in substantial and costly delays to construction (particularly if a Section 90 AHIP or Part 4 State Significant Development approval is not in force), late revisions to development plans, and/or cause undesirable impacts to sites of significance. However, monitoring for the presence of artefacts and other features during initial earthworks can be of scientific benefit and benefit to the Aboriginal community, by enabling the identification and retrieval of cultural evidence that may not otherwise have been recorded or salvaged.

10.2 Assessment of Specific Management Options for Aboriginal Sites, Potential Resources and Cultural Values

The assessment of specific strategies for the management of the identified and potential Aboriginal heritage resources and cultural values within the SSD Area has been considered in relation to various criteria such as the:

- Nature of the heritage evidence (eg. site type, size, contents);
- Significance of the heritage evidence;
- Current approval status for the evidence (ie. existing AHIPs) and any recommended management strategies (in previous heritage reports);
- Approved MPO and Bengalla Mine impact areas (ie. existing approved impacts);

- Status of existing impacts under the current approval (ie. current status of the site, such as *in situ*, salvaged and/or impacted), noting that for existing identified Aboriginal sites this assessment is current for the date of the MACH supplied aerial photograph of 29 June 2019;
- Level and extent of existing heritage survey coverage;
- Assessment of intangible Aboriginal cultural values;
- Model of Aboriginal occupation for the locality, in which much of the SSD Area represents contexts in which occupation is likely to have been of a generally low intensity and overwhelmingly of low density open artefact evidence representative of background discard, with a low number of activity areas;
- The predictive model of Aboriginal site location, particularly relevant to SSD Zones B and C, which indicates that apart from a widespread generally low to very low density distribution of artefacts and possibly lithic quarry evidence, other site types have a very low or low potential to occur;
- Nature of the proposed SSD Impacts (eg. broad-scale high level *primary disturbance* within SSD Zones A and B, and small-scale low to high level *minor disturbance* within SSD Zone C, along with continuing land-use particularly in SSD Zone C);
- Offsetting of impacts, through the retention of the approved Conservation Area A and alternative options for provisional Conservation Areas B and C;
- Conclusion that the additional impacts of the SSD Project would be very low within a regional context and the cumulative impact of the SSD Project would be very low; and
- Views of the Registered Aboriginal Parties.

The recommended management strategies and the primary rationale for each strategy for each Aboriginal site are listed in Appendix 7 and summarised in Appendix 8, with the rationale and outcomes discussed in further detail below and final recommendations presented in Section 11.

10.2.1 Management of Broad-Scale High Level Impacts (Primary Disturbance) – SSD Zones A and B

SSD Zone A:

Within SSD Zone A, *existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance*, impacts have already occurred or would occur under the approved MPO to all 892 Aboriginal sites within this zone (refer to Table 20 and Appendices 7 and 8).

SSD Zone A1:

Within SSD Zone A1 (areas subject to previous heritage surveys and covered by an existing AHIP), the vast majority of identified Aboriginal sites (approximately 568) have been subject to heritage salvage. Hence, the appropriate management strategy for these sites is 'no further action'.

Where the open artefact sites remain *in situ* (approximately 64 sites), salvage (principally surface collection) is intended to be undertaken in accordance with the relevant approved AHIP. Hence, the appropriate management strategy for these sites is 'surface collection' to mitigate impacts consistent with the existing AHIP and other similar sites. This action could be completed prior to SSD Approval under the existing AHIP and approvals, or post-SSD Approval in accordance with a revised AHMP (refer to Section 10.2.4).

For a number of the previously recorded sites that were not included in the RTCA Aboriginal Site Database (approximately 62 open sites and two scarred trees), there is uncertainty about the current status of several of these sites, and whether any salvage and/or unmitigated impacts have occurred under an AHIP. MACH reported this issue to the BCD (now Heritage NSW) which have endorsed the strategy of unmitigated impact where impacts have already occurred under an AHIP, and further investigation (involving on-site inspection) and management under the existing AHIPs (for example, with surface collection) prior to impacts occurring where the sites remain *in situ*. As discussed in Section 3.1, these sites have also been added to the Revision 4 MPO Aboriginal Site Database and Aboriginal Site Recording Forms have been lodged with Heritage NSW to facilitate the registration of these sites on AHIMS. Where it is identified that impacts have not yet occurred, the appropriate management strategy for these open artefact sites is 'surface collection' to mitigate impacts consistent with the AHIP conditions and other similar sites. This action could be completed prior to SSD Approval under the existing AHIP and approvals, or post-SSD Approval in accordance with a revised AHMP.

There are approximately 83 of the previously recorded sites that were not included in the RTCA Aboriginal Site Database for which unmitigated impacts appear to have occurred (without salvage). As discussed above, Heritage NSW has endorsed the strategy of unmitigated impact where impacts have already occurred under an AHIP.

Several scarred trees are situated in SSD Zone A1 and for each of these the appropriate management strategy is to reassess the origin of the scar. Based on the results of investigations to date (Kuskie 2017a-c, 2019, Burns 2017a-c, Global Soil Systems 2019), it is possible that few, if any, of these scars may be of Aboriginal origin. However, should a scar be determined to be of Aboriginal origin, procedures can be included within the SSD AHMP to enable salvage prior to impacts (consistent with the current MPO AHMP; refer to Section 10.2.4).

The 'spiritual place' reported by Roberts (2007) is of uncertain validity, however its location within SSD Zone A1, with an approved AHIP in place for existing approved disturbance, means that the appropriate management strategy for this item is 'no further action required'. The significant heritage salvage measures and conservation areas have acted to counterbalance any impacts to this item.

SSD Zone A2:

Within SSD Zone A2 (areas subject to previous heritage surveys but not covered by an existing AHIP), all 109 sites remain *in situ*. The appropriate management strategy for at least 96 of these sites is 'surface collection' to mitigate impacts consistent with the AHIP conditions and other similar sites.

Approximately 19 of these sites are situated within the previously proposed location of Conservation Area C, for which MACH will seek alternative options, as is warranted to assist with counterbalancing the approved impacts of the MPO and the proposed additional impacts of the SSD Project. Of these sites, approximately 13 require an assessment of heritage significance and/or impacts once future detailed design is finalised. Hence, the appropriate management strategy for these sites is to 'reassess impacts with detailed design and significance' with procedures included in the SSD AHMP to enable management of the sites prior to impacts ('manage as per SSD AHMP for site type, level of impacts and significance'; refer to Section 10.2.4). The appropriate procedures may include surface collection, consistent with other similar types and the approved AHIPs. For another six sites that will be subject to Zone A2 impacts and don't require reassessment, the appropriate management strategy is 'surface collection' to mitigate impacts.

The investigation and assessment of alternative conservation areas for the provisional Conservation Areas B and C is required and warranted (refer to Section 10.2.4). Such investigation should be undertaken by an appropriately qualified and experienced expert in Aboriginal heritage, and include the:

- Identification of an alternative area(s) for conservation;
- Recording of the identified and potential heritage resources and cultural values within the alternative area(s), in consultation with the Aboriginal community; and
- Detailed comparative analysis of the existing provisional Conservation Areas B and C with the alternative area(s), including with respect to the nature of identified heritage evidence (such as site types, extent, contents, integrity, activities and behaviours represented), nature of potential heritage evidence (in consideration of environmental contexts, occupation models and predictive models), heritage significance and conservation value, to ensure that the alternative area is generally consistent with the existing provisional area.

SSD Zone B:

Within SSD Zone B, *areas in which additional SSD primary disturbance is proposed*, impacts are proposed to occur to approximately all 132 Aboriginal sites within this zone (refer to Table 21 and Appendices 7 and 8).

SSD Zone B1:

SSD Zone B1 (additional primary disturbance areas subject to previous heritage surveys and covered by an existing AHIP) contains approximately 84 sites that would be impacted under the SSD Approval. However, approximately 48 of these sites have already been subject to heritage salvage under existing AHIPs. Hence, the appropriate management strategy for these sites is 'no further action'.

Where the open artefact sites remain *in situ*, salvage (principally surface collection) is intended to be undertaken in accordance with the relevant approved AHIP. Hence, the appropriate management strategy for these sites is 'surface collection' to mitigate impacts consistent with the existing AHIP and other similar sites. This action could be completed prior to SSD Approval under the existing AHIPs, or post-SSD Approval, in accordance with a revised AHMP.

For approximately ten of the previously recorded open artefact sites that were not included in the RTCA Aboriginal Site Database, there is uncertainty about the current status of these sites and whether salvage and/or unmitigated impact has occurred, with one site known to have been subject to unmitigated impacted. As noted above, Heritage NSW has endorsed the strategy of unmitigated impact where impacts have already occurred under an AHIP, and further investigation (involving on-site inspection) and management under the existing AHIPs (for example, with surface collection) prior to impacts occurring where the sites remain *in situ*. Where it is identified that impacts have not yet occurred, the appropriate management strategy for these open artefact sites is 'surface collection' to mitigate impacts consistent with the AHIP conditions and other similar sites. This action could be completed prior to SSD Approval under the existing AHIPs, or post-SSD Approval, in accordance with a revised AHMP.

As for Zone A2, six sites require an assessment of heritage significance and/or impacts once detailed design is finalised. Hence, the appropriate management strategy for these sites is to 'reassess impacts with detailed design and significance' with procedures included in the SSD AHMP to enable management of the sites prior to impacts ('manage as per SSD AHMP for site type, level of impacts and significance'). The appropriate procedures may include surface collection, consistent with other similar types and the approved AHIPs.

As for Zone A1, one possible scarred tree is situated in SSD Zone B1, and a similar management strategy is appropriate, to reassess the origin of the scar and subsequently manage as per procedures included within the SSD AHMP.

SSD Zone B2:

SSD Zone B2 (additional primary disturbance areas subject to previous heritage surveys but not covered by an existing AHIP) contains approximately 38 sites that would be impacted under the SSD Approval.

Many of these sites are in the previously proposed location of Conservation Area C, and as discussed above in relation to Zone A2, appropriate management strategies include seeking an alternative conservation area. For approximately 11 sites (and another three outside of the provisional Conservation Area C), the appropriate management strategy is 'surface collection' to mitigate impacts consistent with the existing AHIPs and other similar sites. For approximately 25 sites (and one other outside of the provisional Conservation Area C), which require an assessment of heritage significance and/or impacts once detailed design is finalised, the appropriate management strategy is to 'reassess impacts with detailed design and significance' with procedures included in the SSD AHMP to enable management of the sites prior to impacts ('manage as per SSD AHMP for site type, level of impacts and significance'). The appropriate procedures may include surface collection, consistent with other similar types and the approved AHIPs.

SSD Zone B3:

SSD Zone B3 (additional primary disturbance areas not subject to previous heritage surveys but covered by an existing AHIP) contains two sites that would be impacted under the SSD Approval. The appropriate management strategy for these sites is 'surface collection' to mitigate impacts consistent with other similar sites. This action could be completed prior to SSD Approval under the existing AHIP and approvals, or post-SSD Approval in accordance with a revised AHMP.

Part of SSD Zone B3 was subject to survey during the present assessment. However, for the small portions that have not been subject to heritage survey, systematic heritage survey of these areas prior to any impacts occurring is warranted. This would enable identification of and management of any heritage evidence in accordance with procedures specified within a revised SSD AHMP (refer to Section 10.2.4).

SSD Zone B4:

SSD Zone B4 (additional primary disturbance areas not subject to previous heritage surveys or an existing AHIP) contains eight sites that would be impacted under the SSD Approval. The appropriate management strategy for five of these sites is 'surface collection' to mitigate impacts consistent with other similar sites. This action could be completed prior to SSD Approval under the existing AHIP and approvals, or post-SSD Approval in accordance with a revised AHMP.

For three sites, which require an assessment of heritage significance, the appropriate management strategy is to 'reassess impacts with detailed design and significance' with procedures included in the SSD AHMP to enable management of the sites prior to impacts ('manage as per SSD AHMP for site type, level of impacts and significance'). The appropriate procedures may include surface collection, consistent with other similar types and the approved AHIPs.

Part of SSD Zone B4 was subject to survey during the present assessment. However, for the small portions that have not been subject to heritage survey, systematic heritage survey of these areas prior to any impacts occurring is warranted. This would enable identification of and management of any heritage evidence in accordance with procedures specified within a revised SSD AHMP (refer to Section 10.2.4).

Multiple SSD Zones:

Approximately 15 sites extend across more than one potential impact zone, and/or the exact spatial extent of the site is not totally certain with respect to the impact zone(s) (refer to Table 23). Management strategies for these sites are summarised in Appendix 8 and listed for individual sites in Appendix 7, consistent with the other strategies presented here. Five of these sites have already been subject to salvage under existing approvals.

SSD Zones A and B – Alternative Management Options:

In general terms, due to the broad scale nature of the proposed impacts, and the low heritage significance of *in situ* open artefact evidence within SSD Zones A and B, avoidance of impacts and/or conservation, additional salvage measures[24] (for example, test excavation and/or broad-area excavation)[25], or monitoring are not warranted.

Existing salvage measures (surface collections) and conservation measures (Conservation Area A and an alternative option for the provisional Conservation Areas B and C) will effectively and satisfactorily mitigate, minimise, counterbalance and manage the impacts of the approved and proposed Project within SSD Zones A and B.

[24] In addition to those already approved and/or undertaken with the existing AHIPs.
[25] For several sites in SSD Zone C, excavation has been recommended by previous recorders (refer to Section 10.2.2).

As outlined in Section 10.2.4, development of a revised SSD AHMP with procedures relating to the management of both identified Aboriginal sites, for which the level of significance and/or impacts are not currently known, and previously unidentified Aboriginal sites that may be identified during the course of the Project, would encapsulate the full range of reasonable and feasible mitigation measures that could be implemented, consistent with industry best practice.

10.2.2 Management of Small-Scale Low to High Level Impacts (Minor Disturbance) - SSD Zone C

Within SSD Zone C, *remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design* (ie. the entire SSD Area excluding SSD Zones A and B), there have been approximately 697 Aboriginal sites recorded (refer to Table 22 and Appendices 7 and 8). Of these sites, 277 are situated in SSD Zones A1R, A2R and A4R, within the currently approved primary disturbance area that will be relinquished under the SSD Approval and therefore becomes SSD Zone C.

Approximately 209 sites within Zone C have already been subject to heritage salvage under existing approved AHIPs. Effectively, even if impacts were now to occur from the SSD Project, these sites have been salvaged and therefore any impacts wouldn't necessarily result in a change from the level of impacts of the approved MPO compared to the SSD Project. Hence, the appropriate management strategy for these sites is 'no further action required'.

Approximately seven sites appear to have been subject to unmitigated impact by Bengalla Mine with or without salvage. Hence, the appropriate management strategy for these sites is 'no further action required'.

It is anticipated that the majority of SSD Zone C will not be subject to development impacts (as broad-scale primary disturbance is not proposed). Impacts within Zone C are subject to future detailed design and may relate to activities such as infrastructure relocation, ancillary infrastructure, exploratoration activities and environmental monitoring. Where impacts do occur, they are likely to be relatively minor in extent and potentially with some flexibility in location (which could enable avoidance or minimisation of impacts to any heritage items of moderate or high significance). Hence, the appropriate management strategy for *in situ* sites within SSD Zone C (approximately 481 sites) is to 'reassess impacts with detailed design' with procedures included in the SSD AHMP to enable management of the sites prior to any impacts occurring ('manage as per SSD AHMP for site type, level of impacts and significance')[26]. Further discussion is presented in Section 10.2.4 regarding the SSD AHMP and appropriate procedures.

For those sites for which the heritage significance has not specifically been assessed by the previous recorder, assessment of significance is required prior to determining the appropriate management strategy. The inclusion of relevant details within the SSD AHMP (for example, consistent with the current MPO AHMP for newly identified sites), can provide clear guidance on management strategies for each site type, depending on the level of impacts and significance (refer to Section 10.2.4).

Approximately 40 sites are situated in SSD Zone A1R-C, within areas covered by an existing AHIP, and for which the heritage significance has been assessed. Hence, to be consistent with the currently approved AHIP, the appropriate management strategy for these sites is to 'reassess impacts with detailed design – if impacts to occur, surface collection'.

[26] Excluding 40 sites in SSD Zone A1R-C and 183 sites in SSD Zone A2R-C – refer below.

For approximately 173 open artefact sites in SSD Zone A2R-C which have been assessed as being of low heritage significance, the appropriate management strategy is 'reassess impacts with detailed design' with surface collection if impacts are to occur, to mitigate impacts consistent with the other similar sites.

Ten sites are situated in SSD Zone A2R-C which have been assessed as 'uncertain' significance with a recommendation by McCardle (2007) to conduct test excavations. Hence, the appropriate management strategy for these sites is firstly to 'reassess impacts with detailed design', with test excavation if impacts are to occur, then further management as per the SSD AHMP for the site type, level of impacts and significance. Procedures for excavation therefore require inclusion within the SSD AHMP (refer to Section 10.2.4).

Approximately 114 of these sites are situated in the previously proposed location of Conservation Area C, and as discussed above in relation to Zone A2, an additional appropriate management strategy would include seeking an alternative conservation area for that conservation area.

As for Zone A1, nine possible scarred trees are situated in SSD Zone C, and a similar management strategy is appropriate, to reassess the origins of the scars and subsequently manage as per the SSD AHMP.

10.2.3 Management of Continuing Land-Use Impacts

Continuation of existing land-use practices, mostly relating to the maintenance and use of the vehicle tracks and power easements and pastoral/rural use of land, for both the MPO, SSD Project and non-Project related purposes, may result in impacts to the identified Aboriginal heritage evidence. Although the level of potential impacts is generally unlikely to be different or greater than previous impacts which have occurred over several centuries of non-indigenous occupation, management strategies can be implemented to ensure that significant additional impacts do not occur through the actions of the proponent, or that inadvertent impacts do not occur to heritage sites of significance. This is particularly of relevance to land directly owned or managed by MACH.

Strategies to manage continuing land-use impacts may include:

- Provision of information to relevant staff and contractors and other landowners and users of the land; and
- Protective fencing and/or signage, particularly for sites of significance.

10.2.4 Further Investigation, Mitigation and Management

As identified in Sections 10.2.1-10.2.3 and Appendix 7, various measures involving further investigation, mitigation and/or offsets are required for specific Aboriginal sites or zones within the SSD Area, or in relation to certain types of impacts, or may be required in relation to evidence identified during future heritage investigations or mining operations.

The recommended management strategies are presented in Section 11 and for each Aboriginal site are listed in Appendix 7 and are discussed further below.

SSD AHMP:

Provisions relating to Aboriginal heritage would need to be included in an SSD AHMP, which subsequent to SSD Approval and approval of the AHMP, would guide all management of Aboriginal heritage within the SSD Area *in lieu* of the existing AHIPs and NP&W Act requirements.

The existing AHMP (MACH Energy 2017) could form an adequate basis for development of an SSD AHMP, however critical revisions would be needed to reflect the significant change in the heritage management process (from the AHIPs and NP&W Act to the SSD Approval and AHMP). A revised SSD AHMP should be prepared by an appropriately qualified heritage practitioner with significant expertise in Aboriginal heritage.

Key management strategies requiring inclusion within the SSD AHMP are discussed below.

The SSD AHMP would need to:

- Define responsibilities of personnel;
- Define procedures in relation to Aboriginal heritage;
- Establish procedures for investigation and reporting of non-compliances;
- Establish policies and actions for compliance with the EP&A Act, NP&W Act and SSD Development Consent; and
- Facilitate a process of communication and decision-making.

Aboriginal Community Involvement:

Procedures relating to the ongoing involvement of the RAPs in the management of Aboriginal heritage within the SSD Area would need to be included within the SSD AHMP. These procedures should include provisions for:

- Consultation about the methodology of further archaeological survey or excavation and curation of salvaged items;
- Engagement of representatives of the RAPs for participation in all archaeological survey, excavation, collection and monitoring required under the Plan;
- Provision of draft versions of heritage reports produced under the Plan to the RAPs for comment where appropriate and provision of final versions of all heritage reports produced under the Plan to the RAPs;
- Notification about the discovery of new Aboriginal objects and skeletal material;
- Aboriginal community access on-site;
- Dispute resolution processes; and
- Regular, ongoing communications.

Heritage Practitioners Involvement:

Procedures relating to the involvement of qualified practitioners in Aboriginal heritage in the management of Aboriginal heritage within the SSD Area would need to be included within the SSD AHMP. These procedures should include:

- Conduct of all archaeological survey, excavation, collection, monitoring, analysis and reporting by appropriately qualified and experienced archaeologists (minimum BA Honours degree in Aboriginal archaeology and two years full-time experience in Aboriginal archaeology), prior to any development impacts occurring to the specific Aboriginal sites or areas.

Cultural Awareness Training:

In general, cultural awareness training is warranted for staff and contractors prior to undertaking any tasks on site that may give rise to any interactions with Aboriginal heritage. Procedures relating to cultural awareness training should be included within the SSD AHMP, including presentation of information about the:

- Aboriginal culture and history of the locality;
- Nature of the identified and potential Aboriginal heritage evidence and cultural values within the SSD Area;
- Legal obligations; and
- Specific on-site management measures and procedures for Aboriginal heritage.

Artefact Curation:

Procedures relating to the curation of Aboriginal objects salvaged from within the SSD Area would need to be included within the SSD AHMP. Long-term curation of any recovered evidence would need to be resolved with the RAPs, with potentially a Care Agreement required under Section 85A of the NP&W Act. Options include storage off-site and reburial or storage on-site.

Temporary storage of items at locations off-site (for example, during analysis and recording) and on-site (after completion of any analysis and recording) also requires consideration.

Heritage Reporting:

Procedures relating to the reporting of all Aboriginal heritage investigations within the SSD Area would need to be included within the SSD AHMP, including the conduct of reporting for all heritage salvages and additional investigations in a manner consistent with relevant Heritage NSW guidelines (such as the DECCW 2010b *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*) and distribution of reports to relevant stakeholders (such as the RAPs, Heritage NSW and DPIE) within appropriate timeframes.

Aboriginal Site Database and Site Records:

Procedures relating to the maintenance of the MPO Aboriginal Site Database for the SSD Area and compliance with Section 89A of the NP&W Act (notification of newly identified sites and/or salvage of or impacts to identified sites) would need to be included within the SSD AHMP.

The MPO Aboriginal Site Database and Open Site Shape GIS layer established for this Project that lists known Aboriginal sites, in both tabular and GIS form, would need to be updated following SSD Approval and continue to be maintained and regularly updated.

Subsequent to SSD Approval, a revision would be required to exclude the portions of the Revision 4 MPO Aboriginal Site Database Area that would no longer be situated within the approved SSD Area or Aboriginal Heritage Conservation Areas.

Appendix 7 forms the basis for the post-SSD Approval MPO Aboriginal Site Database, with supplementary columns to be included as present within the current Revision 4 MPO Aboriginal Site Database (*Original Easting, Original Northing, Datum, Zone, Database, MGA Easting and MGA Northing* columns).

Aboriginal Site Recording Forms and Aboriginal Site Impact Recording Forms would need to be lodged in a timely manner with the Heritage NSW AHIMS for any previously unrecorded Aboriginal heritage evidence that is identified within the SSD Area during the course of operations and/or further heritage assessments, and/or for identified sites that are subject to salvage or impacts.

Protection From Inadvertent Impacts:

Procedures relating to the avoidance of inadvertent impacts to *in situ* Aboriginal sites within the SSD Area would need to be included within the SSD AHMP.

Strategies to manage avoidance of inadvertent impacts, including those from continuing land-use practices, may include:

- Continuation of a Ground Disturbance Permit approval process for proposed impacts on-site, with consideration of impacts on Aboriginal heritage;
- Provision of information to relevant staff and contractors and other landowners and users of the land; and
- Protective fencing and/or signage.

Conservation Area Investigation:

The investigation and assessment of alternative conservation areas for the provisional Conservation Areas B and C is required and warranted. Such investigation should be undertaken by an appropriately qualified and experienced expert in Aboriginal heritage, and include the:

- Identification of an alternative area(s) for conservation;
- Recording of the identified and potential heritage resources and cultural values within the alternative area(s), in consultation with the Aboriginal community; and
- Detailed comparative analysis of the provisional Conservation Areas B and C with the alternative area(s), including with respect to the nature of identified heritage evidence (such as site types, extent, contents, integrity, activities and behaviours represented), nature of potential heritage evidence (in consideration of environmental contexts, occupation models and predictive models), heritage significance and conservation value, to ensure that the alternative areas are generally consistent with the existing provisional areas.

The timing of completion of the assessment, Aboriginal community consultation and any approval would need to be made in consideration of requirements under the existing MPO Development Consent and approved AHMP, and could be undertaken prior to SSD Approval.

Heritage Survey Requirements:

Procedures relating to where, when and how additional heritage survey is required within the SSD Area would need to be included within the SSD AHMP.

Small portions of the additional primary impact areas of SSD Zones B3 and B4 have not been subject to heritage survey. In addition, within SSD Zone C, areas that may be subject to minor impacts (subject to future detailed design) have not been subject to heritage survey. Systematic heritage survey of these areas prior to any impacts occurring is warranted. This would enable identification of and management of any heritage evidence in accordance with procedures specified within a revised SSD AHMP (refer below). Further inspection may also be required to clarify potential impacts on an identified Aboriginal site, in areas that have been subject to previous heritage survey, subsequent to detailed design of proposed works.

Reassessment of Impacts and Significance After Detailed Design:

Procedures relating to the assessment of impacts on identified Aboriginal sites of works that are subject to future detailed design (such as infrastructure relocation, ancillary infrastructure, exploratoration activities and environmental monitoring), particularly within SSD Zone C, would need to be included within the SSD AHMP. Such procedures may include:

- A Ground Disturbance Permit process, with consideration of the impacts of any works on Aboriginal heritage, including the MPO Aboriginal Site Database and Open Site Shape Layer;
- For those sites for which the heritage significance has not specifically been assessed by the previous recorder, assessment of significance undertaken by an appropriately qualified and experienced heritage practitioner prior to determining the appropriate management strategy; and
- Subsequent management of Aboriginal sites prior to any impacts occurring in accordance with procedures in the SSD AHMP (refer below) specific for the site type, level of impacts and significance.

Management Based on Site Type, Level of Impacts and Significance, Including Procedures for Previously Unrecorded Aboriginal Sites:

Procedures relating to the management of both identified Aboriginal sites, for which the level of significance and/or impacts are not currently known (such as many sites within SSD Zone C), and previously unidentified Aboriginal sites that may be identified during the course of the Project, would need to be included within the SSD AHMP.

The inclusion of relevant details would provide clear guidance for all stakeholders on management strategies for each site type, depending on the level of impacts and significance, and would encapsulate the full range of reasonable and feasible mitigation measures that could be implemented, consistent with industry best practice.

Appropriate management strategies to manage potential *small-scale* impacts on open artefact sites include:

- Where feasible, seek to redesign the proposed works such that impacts are minimised or avoided to the heritage evidence;

- Where the open artefact site is assessed by the appropriately qualified heritage practitioner as being of low or low-moderate heritage significance and impacts cannot be avoided, following detailed recording of the evidence, surface collection would occur and subsequent impacts would be permitted to occur without further action;

- Where the open artefact site is assessed as being of moderate or higher heritage significance and impacts cannot be avoided, following detailed recording of the evidence, surface collection would occur and additional salvage (hand excavation and/or surface scrapes) may be undertaken where the proposed impacts are substantial in nature, with the methodology and scope determined by an appropriately qualified heritage practitioner with respect to the nature and extent of proposed impacts and nature and significance of the evidence, and potential mitigation and research benefits. However, where impacts are determined to be minimal, impacts may be permitted to occur without further action after the evidence within the impact area has been subject to surface collection.

Appropriate management strategies to manage potential *broad-scale* impacts on open artefact sites include:

- Where the open artefact site is assessed by the appropriately qualified heritage practitioner as being of low or low-moderate heritage significance and impacts cannot be avoided, following detailed recording of the evidence, surface collection would occur and subsequent impacts would be permitted to occur without further action;

- Where the open artefact site is assessed as being of moderate or higher heritage significance and impacts cannot be avoided, following detailed recording of the evidence, surface collection would occur and additional salvage (hand excavation and/or surface scrapes) may be undertaken where the proposed impacts are substantial in nature, with the methodology and scope determined by an appropriately qualified heritage practitioner with respect to the nature and extent of proposed impacts and nature and significance of the evidence, and potential mitigation and research benefits. However, where impacts are determined to be minimal, impacts may be permitted to occur without further action after the evidence within the impact area has been subject to surface collection.

The potential for most other types of Aboriginal heritage evidence (for example, bora/ceremonial sites, carved trees, scarred trees, burials, grinding grooves, rock shelters and stone arrangements) is typically low to very low or negligible. An appropriate management strategy for any site types other than open artefact sites that are identified within the SSD Area and may be subject to impacts would be the redesign of the proposed works so that impacts are avoided to the heritage evidence, with appropriate protective measures implemented where relevant. In the event that impacts cannot be avoided, an appropriately qualified heritage practitioner could propose management actions (suitable to the nature and significance of the site and level of potential impacts) in consultation with the RAPs.

Should any skeletal remains be detected during the course of the Project, provisions would need to be included in the SSD AHMP for work in that location to cease immediately and the finds reported to the appropriate authorities, including the Police, Heritage NSW and the RAPs. Subject to the Police requiring no further involvement, the management of any Aboriginal skeletal remains could be determined in consultation with the DPIE, Heritage NSW and RAPs.

Provisions would also need to be included in the SSD AHMP for work to immediately stop in the vicinity of any newly identified Aboriginal heritage evidence (except for that identified during the course of heritage salvages) and protocols for internal reporting of the site and for subsequent assessment by an appropriately qualified heritage practitioner in consultation with the RAPs.

Surface Collection:

Where surface collection is identified as an appropriate management strategy for an open artefact site (refer to Appendix 7 and above), procedures should include:

- Be undertaken by appropriately qualified and experienced heritage practitioners, in consultation with the RAPs;
- Be undertaken prior to any development impacts occurring to those specific areas or sites;
- Systematic collection procedures selected by the heritage practitioner with respect to the nature and extent of the evidence and collection area, but involving delineation of the collection area, recording of artefact locations (for example, by using measurements offset from baselines, or by collection within a grid, or by GPS recording of individual artefacts), collection of relevant artefacts with the provenance recorded and labelled on the bag containing the item, and photographs and recording of each site location;
- Involve collected artefacts being washed and dried if necessary and recorded by a qualified heritage practitioner. A minimal level of information would be recorded for every artefact collected (provenance, stone material type, lithic item type, size, weight, nature and quantity of cortex, and presence and nature of any use-wear or residues) with additional attributes recorded where necessary. Individual artefacts of significance may be photographed and/or illustrated.

Test Excavation:

Where test excavation is identified as an appropriate management strategy for an open artefact site (refer to Appendix 7 and above), procedures should include:

- Be undertaken by appropriately qualified and experienced heritage practitioners, in consultation with the RAPs;
- Be undertaken prior to any development impacts occurring to those specific areas or sites;
- Aim to identify the nature of evidence at the site, its potential extent, significance and research value, to inform whether additional salvage is required (refer below to broad area hand excavation and surface scrapes);
- Involve systematic procedures selected by the archaeologist with respect to the nature and extent of the evidence and potential impacts, but involving hand excavation by shovel and trowel of single or multiple contiguous units to the depth of the A unit soil/top of B unit soil or visible or predicted cultural deposits. Excavation units may measure 0.5 x 0.5 metres or one square metre in size and be spaced at intervals of up to five metres on linear transect(s). Soil from each excavation unit would be dry-sieved or wet-sieved (where soils have a high clay content) through 2-3 millimetre diameter mesh. Material (both natural and cultural) remaining in the sieve would be sorted by a qualified archaeologist to retain all probable and potential cultural items and dispose of the natural items. Excavation locations would be photographed and recorded;

- Involve where features (such as fireplaces, hearths or heat-treatment pits) are identified that contain samples suitable for radiocarbon or other methods of direct dating, retrieval of these samples and submission to an accredited laboratory for dating. Soil samples would also be retained;

- Involve collected artefacts being washed and dried if necessary and recorded by a qualified archaeologist. A minimal level of information would be recorded for every artefact collected (provenance, stone material type, lithic item type, size, weight, nature and quantity of cortex, and presence and nature of any use-wear or residues) with additional attributes recorded where necessary. Individual artefacts of significance may be photographed and/or illustrated.

Broad Area Hand Excavation of Open Artefact Sites:

Where broad-area hand excavation is identified as an appropriate management strategy for an open artefact site (refer to Appendix 7 and above), including as an outcome of initial test excavations, procedures should include:

- Be undertaken by appropriately qualified and experienced heritage practitioners, in consultation with the RAPs;

- Be undertaken prior to any development impacts occurring to those specific areas or sites;

- Be undertaken where deemed necessary by the appropriately qualified and experienced heritage practitioner, in consultation with the RAPs, typically after initial test excavation has identified the potential for deposits of research value and that salvage of a sample of these deposits would assist in addressing relevant research aims and mitigating the impacts of the SSD Project;

- Aim to retrieve the evidence that comprises the feature or site in a manner consistent with obtaining maximum possible information to address relevant research aims and mitigate the impacts of the SSD Project;

- Involve systematic procedures selected by the archaeologist with respect to the nature and extent of the evidence and potential impacts, but involving hand excavation by shovel and trowel of single or multiple contiguous units to the depth of the A unit soil/top of B unit soil or visible or predicted cultural deposits. Excavation units may measure 0.5 x 0.5 metres or one square metre in size. Soil from each excavation unit would be dry-sieved or wet-sieved (where soils have a high clay content) through 2-3 millimetre diameter mesh. Material (both natural and cultural) remaining in the sieve would be sorted by a qualified archaeologist to retain all probable and potential cultural items and dispose of the natural items. Excavation locations would be photographed and recorded;

- Involve where features (such as fireplaces, hearths or heat-treatment pits) are identified that contain samples suitable for radiocarbon or other methods of direct dating, retrieval of these samples and submission to an accredited laboratory for dating. Soil samples would also be retained;

- Involve collected artefacts being washed and dried if necessary and recorded by a qualified archaeologist. A minimal level of information would be recorded for every artefact collected (provenance, stone material type, lithic item type, size, weight, nature and quantity of cortex, and presence and nature of any use-wear or residues) with additional attributes recorded where necessary. Individual artefacts of significance may be photographed and/or illustrated.

Surface Scrapes and Localised Hand Excavation of Open Artefact Sites:

Where surface scrapes and localised hand excavations are identified as an appropriate management strategy for an open artefact site (refer to Appendix 7 and above), including as an outcome of initial test excavations or broad-area excavations, procedures should include:

- Be undertaken by appropriately qualified and experienced heritage practitioners, in consultation with the RAPs;
- Be undertaken prior to any development impacts occurring to those specific areas or sites;
- Be undertaken where deemed necessary by the appropriately qualified and experienced heritage practitioner, in consultation with the RAPs, typically after initial test excavation and/or broad area hand excavation has identified that the methodology would be beneficial as a final stage of salvage prior to development impacts occurring to assist in addressing relevant research aims and mitigating the impacts of the SSD Project;
- Aim to identify the broader nature of the spatial distribution of evidence at a site, collection of identified artefacts, the inspection for, identification of and salvage prior to development impact of any significant, unexpected or unusual features, and to retrieve evidence in a manner consistent with obtaining maximum possible information to address relevant research aims and mitigate the impacts of the SSD Project;
- Involve systematic procedures selected by the archaeologist with respect to the nature and extent of the evidence and potential impacts, but involving delineation of the surface scrape area, use of a dozer, grader or similar machinery to progressively expose the surface (firstly by removal of vegetation, then by subsequent removal of thin [for example, 2-5 centimetre] layers of soil), inspection for and collection of any visible artefact evidence after each pass of the machinery, recording of individual artefact positions (for example, by using measurements offset from baselines, or by collection within a grid such as 5 x 5 metre squares, or by GPS recording of individual artefacts) with the provenance recorded and labelled on the bag containing the item, and photography and recording of each surface scrape location;
- Involve where any features of potential significance (for example, *in situ* hearths/fireplaces, heat treatment pits or dense artefact clusters representative of activity areas) are identified during the surface scrapes, hand excavation of those features in order to retrieve the evidence that comprises the feature. Hence, where identified, these features would be temporarily protected from further surface scrapes or other impacts until controlled hand excavation has been undertaken. For many features, this may involve excavation of one or more contiguous units by shovel and trowel to the depth of the A unit soil/top of B unit soil or visible or predicted cultural deposits, as determined by the archaeologist, following a similar procedure as outlined for broad area hand excavations;
- Involve where features (such as fireplaces, hearths or heat-treatment pits) are identified that contain samples suitable for radiocarbon or other methods of direct dating, retrieval of these samples and submission to an accredited laboratory for dating. Soil samples would also be retained;
- Involve collected artefacts being washed and dried if necessary and recorded by a qualified archaeologist. A minimal level of information would be recorded for every artefact collected (provenance, stone material type, lithic item type, size, weight, nature and quantity of cortex, and presence and nature of any use-wear or residues) with additional attributes recorded where necessary. Individual artefacts of significance may be photographed and/or illustrated.

Scar Tree Reassessment and Salvage:

Where a scarred tree has been reported, an appropriate management strategy (refer to Appendix 7) should include:

- Reassessment of the origin of the scar by an appropriately qualified and experienced forestry specialist and heritage practitioner, in consultation with the RAPs;
- Where the scar is identified as not being of Aboriginal origin, a report should be prepared and submitted to Heritage NSW for amendment of the AHIMS register, with no further action required;
- Where the scar is identified as being of Aboriginal origin, if impacts cannot be avoided the portion of the tree hosting the scar would be removed and curated.

11. RECOMMENDATIONS

This Aboriginal Cultural Heritage Assessment of the Mount Pleasant Optimisation Project has been prepared by South East Archaeology for MACH in relation to an approval being sought by MACH for the Project under Division 4.1 of Part 4, 'State Significant Development', of the EP&A Act.

The SSD Project would involve continued operations within existing approved areas ("Zone A"), extensions of open cut coal extraction within an area of approximately 504 hectares ("Zone B"), upgrades and additional infrastructure including rail transport, infrastructure relocations, new ancillary infrastructure and an extension of mining until 2048.

A total of approximately 1,736 Aboriginal sites are known to occur within the SSD Area, predominantly open artefact scatters and isolated artefacts. Contemporary cultural values have also been identified by the Aboriginal stakeholders, including those associated with the investigation area (relating to traditional land use and ongoing cultural and spiritual connections to the land and resources of the area), use of subsistence and other resources, and those associated with the Aboriginal objects/sites.

The potential impacts associated with the SSD Project principally comprise:

- SSD Zone A - Direct surface impacts involving existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance;
- SSD Zone B - Direct surface impacts involving areas in which additional SSD primary disturbance is proposed; and
- SSD Zone C - Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design.

It is concluded that the *additional* impacts of the SSD Project on Aboriginal heritage (additional to those already approved through the MPO) would be relatively low within a local context and very low within a regional context. With the implementation of mitigation measures, the *additional* impacts of the SSD Project on Aboriginal heritage will be reduced to a minor extent. The implementation of alternative conservation measures *in lieu* of the provisional Conservation Areas B and C would also counterbalance the *approved* and *additional* impacts of the SSD Project on Aboriginal heritage.

The following recommendations are made with consideration of the EP&A Act and NP&W Act, the results of the investigation and consultation with the Aboriginal stakeholders:

1) Provisions relating to Aboriginal heritage should be included in an Aboriginal Heritage Management Plan for the SSD Area. These provisions should be formulated by an appropriately qualified heritage practitioner with expertise in Aboriginal heritage in consultation with the RAPs and specify the policies and actions required to manage Aboriginal heritage within the SSD Area after SSD approval is granted (consistent with those outlined in Section 10.2.4). The primary elements of the AHMP would comprise:

    a) In order to mitigate the impacts of the SSD Project on scientific and cultural values and to retrieve and conserve samples of the heritage evidence, further investigation and mitigation measures will be implemented prior to any impacts occurring to specified sites, values and areas, including management strategies for all identified Aboriginal sites as listed in Appendix 7 ('Recommended Management Strategy' column);

b) Implementation of surface collection procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts;

c) Implementation of test excavation procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts and for which test excavation is identified as necessary;

d) Implementation of broad area hand excavation procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts and for which broad area hand excavation is identified as necessary;

e) Implementation of surface scrape and localised hand excavation procedures consistent with Section 10.2.4 where required for identified open artefact sites (refer to Appendix 7) or any previously unrecorded open artefact sites that may be identified and subject to impacts and for which surface scrapes and localised hand excavations are identified as necessary;

f) Implementation of scarred tree reassessment procedures and management measures consistent with Section 10.2.4 where required for identified scarred trees (refer to Appendix 7) or any previously unrecorded scarred trees that may be identified;

g) Archaeological survey of all potential impact areas that have not been subject to systematic survey sampling including:

    i) Small portions of the additional primary impact areas of SSD Zones B3 and B4 that have not been subject to heritage survey, including any alternative alignment of the Northern Link Road that may be adopted and that has not been subject to heritage survey;

    ii) Potential surface impact areas associated with works subject to future detailed design within SSD Zone C that have not been subject to heritage survey;

    iii) In areas that have been subject to previous heritage survey, subsequent to future detailed design of proposed works, to clarify potential impacts on specific identified Aboriginal sites (as specified in Appendix 7);

h) A Ground Disturbance Permit process will be implemented, with consideration of the impacts of any works on Aboriginal heritage, including the MPO Aboriginal Site Database and Open Site Shape Layer;

i) When detailed design plans have been finalised for any works involving surface impacts within SSD Zone C, the potential impacts on identified Aboriginal heritage sites will be reassessed. For those sites for which the heritage significance has not specifically been assessed, an assessment of significance will be undertaken by an appropriately qualified and experienced heritage practitioner prior to determining the appropriate management strategy. Management strategies will be implemented as outlined in Appendix 7 and in relation to the site type, level of impacts and significance (consistent with Section 10.2.4);

j) Provisions will be included to guide the management of any previously unrecorded Aboriginal heritage sites within the SSD Area that may be identified during future investigations or works, and for specific identified Aboriginal sites (refer to Appendix 7), for which the level of significance and/or impacts are not currently known. The procedures will include:

i) Work to immediately stop in the vicinity of any newly identified Aboriginal heritage evidence (except for that identified during the course of heritage salvages), with protocols for internal reporting of the site and assessment by an appropriately qualified heritage practitioner in consultation with the RAPs;

ii) Management of previously unrecorded open artefact sites that may be identified within the SSD Area and may be subject to potential small-scale or broad-scale impacts involving the procedures outlined in Section 10.2.4;

iii) Management of any other site types that may be identified within the SSD Area involving the procedures outlined in Section 10.2.4;

iv) Should any skeletal remains be detected during the course of the Project, work in that location will cease immediately and the finds will be reported to the appropriate authorities, including the Police, Heritage NSW and the RAPs. Subject to the Police requiring no further involvement, the management of any Aboriginal skeletal remains will be determined in consultation with the DPIE, Heritage NSW and RAPs;

v) Where specified in Appendix 7, or where identified Aboriginal objects cannot be relocated and salvaged, or where unidentified Aboriginal objects exist within impact areas, unmitigated impact will be permissible subject to the implementation of all other relevant provisions;

k) The investigation and assessment of alternative conservation areas for the provisional Conservation Areas B and C will be undertaken by an appropriately qualified and experienced expert in Aboriginal heritage, and include the identification of an alternative area(s) for conservation, recording of the identified and potential heritage resources and cultural values within the alternative area(s) in consultation with the Aboriginal community and detailed comparative analysis of the existing Conservation Areas B and C with the alternative area(s) as outlined in Section 10.2.4 to ensure that the alternative areas are generally consistent with the existing provisional areas;

l) All heritage mitigation and management measures undertaken for the Project will be adequately documented, consistent with Section 10.2.4 of this report, and reports will be provided to relevant stakeholders (such as the RAPs, Heritage NSW and DPIE) within appropriate timeframes;

m) All heritage evidence salvaged under the Project will be curated in an appropriate manner, as determined in consultation with the RAPs. An application will be made to Heritage NSW under Section 85A of the NP&W Act for the curation of any salvaged items that are permanently removed from any heritage site. Temporary storage of items at locations on-site and off-site (for example, during analysis and recording) will be allowed;

n) Where impacts will be avoided to identified *in situ* Aboriginal sites, appropriate site-specific precautionary measures, such as informing relevant staff and contractors and other landowners and users of the land of the nature and location of the items and need to avoid impacts, potentially along with protective fencing and signage, will be implemented where relevant for those sites within close proximity of the area of works;

o) As a general principle, all relevant contractors and staff engaged on the Project who are undertaking tasks on site that may give rise to any interactions with Aboriginal heritage will receive cultural heritage awareness training prior to commencing work on-site. The training package will be formulated in consultation with the RAPs and include the presentation of information about the Aboriginal culture and history of the locality, nature of the identified and potential Aboriginal heritage evidence within the SSD Area, on-site management measures and procedures for Aboriginal heritage, and legal obligations;

p) The MPO Aboriginal Site Database and Open Site Shape GIS layer established for this Project (refer to Appendix 7), that lists known Aboriginal sites within the MPO Aboriginal Site Database Area in both tabular and GIS form, will be updated following the SSD Approval and continue to be maintained and regularly updated;

q) Aboriginal Site Recording Forms and Aboriginal Site Impact Recording Forms will be lodged in a timely manner with the Heritage NSW AHIMS for any previously unrecorded Aboriginal heritage evidence that is identified within the SSD Area during the course of operations and/or further heritage assessments, and/or for identified sites that are subject to salvage or impacts;

r) All archaeological survey, excavation, collection, monitoring, analysis and reporting will only be undertaken by archaeologists qualified and experienced in Aboriginal heritage (minimum BA Honours degree in Aboriginal archaeology and two years full-time experience in Aboriginal archaeology), in consultation with and with the involvement of representatives of the RAPs, and will occur prior to any development impacts occurring to those specific areas or sites;

s) Procedures will be included relating to the ongoing involvement of the RAPs in the management of Aboriginal heritage within the SSD Area, including regular communications, notification about the discovery of new Aboriginal objects and skeletal material, provision of draft reports for comment and final reports, dispute resolution processes, and engagement of representatives for participation in all archaeological survey, excavation, collection and monitoring required under the Plan;

t) Provisions will be included to ensure that Aboriginal community representatives are permitted access for cultural purposes to any identified sites or areas within MACH controlled land when requested, in consideration of safety and operational requirements at the time;

u) The AHMP will be regularly verified to establish that it is functioning as designed (ie. policies adhered to and actions implemented) to the standard required. This will involve review of the AHMP to identify the degree to which the policy objectives are being met, the suitability of the actions in terms of addressing the policy objectives, the quality of performance of the actions, and any additional policies or actions or modifications to existing policies or actions that may be required to enable better functioning of the AHMP;

2) Under the terms of the NP&W Act it is an offence to harm or desecrate an object that the person knows is an Aboriginal object, or to harm an Aboriginal object ('strict liability offence'). Therefore, no activities or work should be undertaken within the Aboriginal site areas as described in this report and marked on Appendix 4 unless in accordance with a valid Section 90 AHIP or with approval under Division 4.1 of Part 4 of the EP&A Act and subsequent implementation of any relevant approval conditions; and

3) Copies of this report should be made available to each RAP, the DPIE and Heritage NSW.

REFERENCES

AECOM 2009 *Aboriginal Archaeology and Cultural Heritage Impact Assessment Mt Arthur Coal, Muswellbrook, NSW*. Unpublished report to Hansen Bailey.

AECOM 2013 *Bengalla Continuation of Mining Project Aboriginal Archaeology and Cultural Heritage Impact Assessment*. Unpublished report to Hansen Bailey.

AECOM 2017 *Bengalla Continuation of Mining Project: Aboriginal Archaeological Salvage Program*. Unpublished report to Bengalla Mining Company Pty Ltd.

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DISCLAIMER

The information contained within this report is based on sources believed to be reliable. Every effort has been made to ensure accuracy by using the best possible data and standards available. The accuracy of information generated during the course of this field investigation is the responsibility of the consultant.

However, as no independent verification is necessarily available, South East Archaeology provides no guarantee that the base data (eg. AHIMS) or information from informants (obtained in previous studies or during the course of this investigation) is necessarily correct, and accepts no responsibility for any resultant errors contained therein and any damage or loss which may follow to any person or party. Nevertheless this study has been completed to the highest professional standards.

APPENDIX 1.

GLOSSARY

Acidic volcanic - broad category of extrusive, fine-grained igneous stone, formed by rapid cooling.

Activity - the nature of behaviour that resulted in the discard of a lithic item. Categories include *non-specific stone flaking*, *microblade production*, *microlith production*, *loss or intentional discard of microliths* and *loss or discard of non-microlith tools.*

Activity area - a single location in which one or more *activity events* has resulted in the discard of items that constitute archaeological evidence. For example, an *activity area* may represent a single *activity* such as *microblade production*. However, this activity is comprised of numerous *activity events* (eg. each blow to the core can be described as an *activity event*), which result in multiple discarded items, each from different *activity events*.

Activity event (discard event) - the discard of lithic item(s) resulting from a single action performed during an *activity*. For example, a single blow to a core during a *non-specific stone flaking* event may result in the detachment of several flakes.

Alternate platforms - different flake initiation surfaces or platforms on a core (nucleus).

Archaeological site - any location that contains evidence of human activity.

Archaeological visibility - a mean estimate of the percentage of visible ground surface within a *sample area* or *site* that has potential to contain evidence of Aboriginal heritage.

Artefact - an object, normally portable, made or modified by the human hand (refer also to *stone artefact*).

Artefact density per square metre of effective survey coverage - mean number of artefacts within each square metre of visible ground surface with potential to contain Aboriginal artefacts that is physically inspected. Calculated by dividing the *number of artefacts* by *effective survey coverage*.

Artefact scatter - a locality that contains evidence of Aboriginal occupation in the form of stone artefacts. For the purposes of the assessment, artefact scatter sites were defined as the presence of one or more stone artefacts within a *survey area* (Kuskie 2000). The survey areas are based on discrete, repeated *environmental contexts* or *archaeological terrain units*. Each spatially discrete location of evidence within a survey area is defined as a site locus, with the boundaries of the site locus defined by the visible extent of artefacts (ie. Aboriginal objects protected under the *National Parks & Wildlife Act 1974*). However, it is assumed that there is a similar probability for comparable evidence to occur elsewhere within the same survey area. Hence, while the visible site loci boundaries are defined by the extent of visible evidence, across the entire survey area in which a site is identified there exists a *potential resource* of comparable evidence.

Associated - where artefacts are identified to be in context with other material. Two main forms of association are where artefacts are identified to be of the same stone material and potentially belonging to the same reduction event, and where artefacts are associated with another feature such as a hearth.

Axe - a multipurpose implement normally made from a hard basic volcanic stone, often finished by grinding the edge on an abrasive stone (*ground-edge axe*). Stone hatchets were an essential part of a male's tool-kit. Some of their uses included to cut saplings for building gunyahs, for stripping bark from trees, cutting notches in trees for climbing, and cutting toe-holds in trees to procure animals or honey from bee nests.

Backed artefact - a retouched flake with one or more margins retouched at a steep angle, and that margin is opposite a sharp edge. The steep margin is formed by bipolar or hammer and anvil knapping. This type of artefact is subdivided into asymmetrical (Bondi) and symmetrically (geometric) shaped backed artefacts.

Backed blade - refer to *backed artefact* or *microlith*.

Background scatter (*background discard*) - manuports and artefactual material that are insufficient either in number or in association with other material to suggest focused activity in a particular location.

Backing (*retouch*) - abruptly angled flaking (retouch) which has shaped a thick back part to an implement such as an elouera or a microlith. The process of flaking varies from bipolar impact (on some eloueras) to delicate application of pressure with a small stone (‘chimbling’ used to make microliths).

Backing flake - a small flake detached from an artefact during the process of backing.

Bipolar flaking - a method of making flakes or retouched flake tools by breaking a piece of stone rested on a stone surface by repeatedly striking the core from above with a stone hammer. Bipolar reduction is evidenced by fracture/initiation (often wedging) at 'both' ends of the 'same' flake/scar and is quite different to simple Hertzian or bending initiation with regular terminations (feather, hinge, step etc.) on a small anvil rested core. It is often employed when core inertia becomes low and/or when platform angles become high, or to commence reduction of a small waterworn pebble.

Bondi point - a sub-type of microlith or *backed artefact* with abruptly angled backing retouch along one lateral margin (and often the butt end) so that it has an asymmetrical plan shape similar to a pen knife blade. This microlith type is commonly found east of the Great Divide as far north as Great Keppel Island.

Bondi point - butt - the thicker end of a bondi point, normally the proximal part of the original flake or microblade preform from which the bondi point has been fashioned.

Bondi point preform - a microblade or flake that has been partially backed by abruptly angled retouch scars along one lateral margin for the purpose of making a bondi point.

Bondi point - tip - the thinner end of a bondi point, normally the distal part of the original flake or microblade preform from which the bondi point has been fashioned.

BP (Before Present) - before the year 1950 AD.

Bulb of force (bulb of percussion) - the rounded outwards swelling of the inside surface of a conchoidal flake beginning just below the partial or complete Hertzian cone. This swelling is caused by the uniform change of direction of the fracture front as the outward bending component of the applied force decays and is overtaken by the compressive component of the force.

Burial - placement of human remains after death, generally in hollow trees, caves or sand deposits or by interment in mounds.

Chert - a highly siliceous rock type formed biogenically from the compaction and precipitation of the silica skeletons of diatoms. Normally there is a high percentage of cryptocrystalline quartz. This rock type breaks by the process of conchoidal fracture and provides flakes that have sharp, durable edges.

Chord - the cutting edge of an implement.

Cobble - waterworn stones of diameter greater than 64 mm and less than 256 mm. Archaeologists often refer to cobbles as pebbles (refer also to *pebble*).

Conjoin analysis - refitting or 'conjoining' artefacts assists with reconstructing prehistoric events (such as tool manufacture, tool use activities and cutting-edge rejuvenation) and determining chronology and assessing site integrity.

Core - a piece of stone, often a cobble or pebble, but also quarried stone, which has been used for striking flakes. These flakes are called 'primary flakes' and may be further shaped by finer flaking, called 'retouch'. The term 'nucleus' refers to cores and flakes or cores that have been retouched.

Core fragment - a portion of a core, typically retaining one or more flake scars but not the platform.

Core rotation - turning of a core (nucleus) on its side or end, so as to continue detaching useful flakes or blades off another surface. Usually this occurs when the previously flaked part of the core because unsuitable for further flake removal.

Cortex - the weathered surface of a piece of stone altered by chemical and/or physical means. Pebble cortex is topographically smooth and occurs with a continuous curve.

Cortex amount - amount of the original weathered surface of the stone material, expressed as a percentage of the item's dorsal surface for flakes or total surface for other items.

Cortex type - nature of the original weathered surface of the stone material. Three types are identified: waterworn/pebble (rounded waterworn surface), tabular (smooth tabular shaped surface, may be waterworn) and terrestrial (rough cortex not consistent with tabular or waterworn surface).

Debitage - commonly used term for the discarded debris from stone flaking. Usually there is a large quantity of flaking refuse or 'debitage' for every finished stone implement.

Detection limiting factors - factors that act to reduce *surface visibility* and *archaeological visibility.*

Discard - in relation to lithic scatters, discard means the incidental, intended or accidental placement of a lithic item on the ground surface.

Distal portion or end - the end of a flake or microblade (opposite to point of fracture origin on the ventral surface).

Dorsal face/facet - the outside surface(s) of a flake, opposite the inside (bulbar or ventral) surface, created during the formation of the flake (refer also to *ventral face*).

Drainage depression - landform element that typically comprises a shallow open depression with smoothly concave cross-section, rising to moderately inclined side slopes, eroded or aggraded by sheetwash (after McDonald *et al* 1984). For the purposes here, this unit also includes gullies (drainage depressions subjected to gully erosion), along with ground approximately 50 metres either side of the centre of the drainage depression.

Edge rounding - rounding wear along the cutting edge of a stone tool resulting from its use. This use-wear can be described as continuous or discontinuous and moderate or pronounced (refer also to *use-wear*).

Effective site area - a measure of the area of a *site locus* containing visible ground with potential for Aboriginal heritage items to occur. Calculated for each *locus* by multiplying the *visible site area* with the percentage of the locus physically inspected and with *mean archaeological visibility*.

Effective survey coverage - a measure of the quantity of visible ground surface physically inspected within a *sample area*, with potential to contain Aboriginal heritage evidence. Calculated by multiplying the *total sample area* of a *survey area* with the percentage of *archaeological visibility*. For a *total sample area* that includes multiple exposures, the *effective survey coverage* of each exposure was calculated separately and added to produce the reported figure.

Elongated flake - a flake at least twice as long as it is broad (by percussion axis).

Environmental context (*archaeological terrain unit*) - discrete, recurring areas of land in which the same combination of landform element and class of slope are present.

Environmental/cultural context - a specific context that exists (generally within an individual archaeological terrain unit), that may host a different range of evidence (reflecting different types and frequencies of activities) than other locations within the same archaeological terrain unit or environmental context. For example, a particular spur crest may lead from a ridgeline used for transitory movement to a camp site bordering a food resource, whereas another spur crest may lead to a stone material source. Individual survey areas on these spur crests may host different types and proportions of evidence, reflecting different ways in which these landforms were utilised.

Exposure type - identification during field inspection of exposed soil units; eg. A horizon, A and B horizons, or B horizon.

Flake - a complete or substantially complete piece of lithic material detached from a core (nucleus), usually with evidence of hard indenter initiation, or occasionally bending initiation. The flake's primary fracture surface (ventral or inside surface) exhibits features such as fracture initiation, bulb of force, and undulations and lances. Very occasionally a conchoidal flake comprises only a bulb of force.

Flake - distal - a flake portion without its area of fracture initiation but with general shape characteristics and/or fracture surface attributes (usually conchoidal markings) indicating its status as an artefact fragment.

Flake - longitudinal - a flake longitudinally fractured from its proximal to its distal end. The breakage may be slightly tangential but are mostly axial in orientation. Such breakages tend to occur during knapping (such as longitudinal cone splits) rather than through post-depositional processes.

Flake - medial - a mid portion of a flake, without the proximal or distal ends.

Flake portion - medial, proximal, longitudinal or distal portion of the original flake.

Flake - proximal - the proximal portion of a flake retaining its area of primary fracture initiation, including 'step terminated flakes'.

Flake - utilised - refer to '*utilised flake or piece*'.

Flaked piece - refer to *'lithic fragment'*.

Flat - landform element that is neither a crest nor a depression and is level or very gently inclined (after McDonald *et al* 1984).

Geometric microlith - a group of microliths distinguished by their various geometric plan-shapes such as triangle, trapeze and rectangle.

Grinding grooves - typically elongated narrow depressions in soft rocks (particularly sedimentary), generally associated with watercourses. The depressions are created by the shaping and sharpening of ground-edge hatchets and grinding of seeds and processing of other plant matter and animal foods.

Ground disturbance - an estimate of the extent of recent human impacts and impacts of natural processes, noted in low, moderate or high categories, modified after McDonald *et al* (1984:69). The low category includes no effective disturbance, minor vegetation removal and low intensity grazing and minimal erosion. The moderate category includes extensive vegetation removal, improved pasture grasses and moderate levels of erosion. The high category includes complete vegetation removal and cultivation, extensive erosion and areas where the A horizon soil has been removed.

Hammerstone - a piece of stone used as a hammer to detach flakes from a core or in applying controlled pressure when retouching a tool's edge. Stone hammers are often quartzite or a volcanic stone, round or oval in shape, with concentrated hammer impact damage on at least one side or end. The presence of use-wear often is the only diagnostic attribute of this tool type.

Heat fracture - fractures cause by heating the stone, either from natural causes, a camp fire, or intentional heat treatment. Also termed *heat shatter* and *thermal fracture*. Attributes indicating heat fracture include colour change, crazing, potlidding and rugose fracture surface topography.

Heat treatment - the intentional slow heating of stone, such as silcrete, to alter its structure (such as homogenising the matrix) and thereby improve its flaking properties.

Holocene - the most recent geological epoch (time period) within the Quaternary period between 10,000 years ago and the present.

Implement (of stone) - synonym for a *stone tool*, usually denoting a tool that has been shaped by flaking (retouch).

Inclusion - or clast, a grain or crystal within a finer-grained matrix (common in silcrete).

Indurated mudstone - refer to *tuff*.

Indurated rhyolitic tuff - refer to *tuff*.

Initiation surface/platform - the surface of a stone that is struck with a hammerstone at a low angle, for the purpose of detaching a flake. This surface is where a flake-forming crack commences; commonly part of it is retained on the flake. The load applied to this surface may be delivered by a hammerstone or by continuous increasing pressure with a length of dense wood or bone.

Knapping floor - a series of flaking events (refer to *knapping event*) that are generally defined as involving a single stone core (but sometimes multiple cores of the same or different materials) and resulting in the deposition of stone flaking debris that may be later recorded in discrete areas or be mixed by post-depositional processes.

Knapping event - a single act of flaking a piece of stone, resulting in the *in-situ* deposition of stone flaking debris. Such an event may occur as part of a series of events (refer to *knapping floor*).

Land surface - type of exposure as observed during a field survey.

Landform element - specific type of topographical feature, following the definitions of McDonald *et al* (1984).

Lateral margin - the thin sides of a flake or microblade.

Lithic - in an archaeological context, items of a hard, usually siliceous, stone of a type selected by Aborigines for tool making. These items are often nondescript fragments, but some are finely shaped implements.

Lithic assemblage (of stone) - a collection of whole and fragmentary stone artefacts and manuports obtained from an archaeological site, either by collecting items scattered on the present ground surface (refer to *artefact scatter*) or by controlled excavation (refer also to *stone artefact*).

Lithic fragment - (or *flaked piece*) - a flaked piece of stone which lacks sufficient morphological attributes to identify it as a flake (a positive scar) or a core (only negative flake scars) or other specific type.

Lithic item - a piece of stone exhibiting fracture surfaces and not identified as a natural piece of stone.

Lithic item associations - inferred relationships between individual lithic items as recorded in the databases. Formal associations between items is based on single or combination of intrinsic attributes such as stone type and colouration, presence of microscopically similar cortex surface, artefact type, production method and metrical dimensions, and extrinsic factors such as nature and characteristics of other lithic items from the unit of sediment excavated. While all such associations are less secure than conjoined artefacts, the level of reliability is from possible to highly probable.

Lithic item type - formal category of an artefact (including lithic fragments).

Lithic quarry - a site of stone procurement, typically used in the specific sense to refer to outcrops of bedrock, where there is clear evidence of procurement activity such as pits, discarded hammerstones and large deposits of primary flaking debris.

Locus (site locus) - a spatially separate location of visible Aboriginal heritage evidence within a *site* (particularly *artefact scatter* sites).

Longitudinal portion - a flake or microblade longitudinally fractured from its proximal to its distal end. The breakage may be tangential or axial in orientation. Such breakages tend to occur during knapping rather than through post-depositional processes.

Loss or discard of non-microlith tools - activity category comprising the loss or intentional discard after use or caching for future use of implements other than microliths.

Loss or intentional discard of microliths - activity category comprising the discard of microlithic implements either during manufacture, after use or unintentionally.

Mean archaeological visibility of site - an estimate of the mean visible ground surface within a *site* that has potential to contain evidence of Aboriginal heritage (expressed as a percentage of the *visible site area*).

Mean artefact density - the average number of surface artefacts recorded within each square metre of visible ground surface with potential to contain Aboriginal artefacts that is physically inspected within a sample area (eg. a site locus or a survey area). Obtained by dividing the *number of artefacts* by the *effective sample area* and expressed as a number of artefacts per square metre of effective sample area. Alternatively, the average number of artefacts located within a volume of excavated deposit, per unit of volume (eg. cubic metre). *Conflated* artefact density refers to the number of artefacts located within a volume of excavated deposit, expressed as a mean of the surface area of the excavation (eg. # artefacts per square metre). This measure is designed to reduce the impact of sediment volume on density comparisons (eg. geomorpohological processes will result in lower slopes having a deeper A unit soil than upper slopes).

Mean surface visibility - an estimate of the mean visible ground surface within a *sample area*.

Medial portion - a fragment of a flake or microblade exhibiting more than one breakage and no platform or termination.

Microblade - an elongated flake with one or more longitudinal ridges and a length greater than twice the width. This type of specialised flake is detached from a microblade core. They were probably fashioned into spear barbs, during recent prehistoric times.

Microblade core - a small core from which regularly shaped bladelets have been struck. Some microblade cores have only one or two microblade facets; others have numerous facets emanating from more than one striking platform.

Microblade portion - a piece of broken microblade (either proximal, distal, medial or longitudinal portion).

Microblade production - activity category describing a method of making small implements (eg. bondi points, geometric microliths) from regular blades struck from a small core.

Microlith - (synonymous with *backed blade*) - a variety of small, delicately retouched implements of various shapes, such as asymmetric (bondi) point, segment, crescent, triangle, trapeze, rectangle and oblique ended. These implements probably functioned as spear barbs.

Microlith production - backing retouch of microliths.

Negative - a scar on an artefact (usually concave) caused by the removal of a flake.

Non-specific stone flaking - activity category of general or non-specific knapping activity. Artefacts do not identify a more specific activity. Includes debitage from primary flaking and from making flake tools.

Order of watercourse - the order of the watercourse (1st, 2nd, etc), after McDonald *et al* (1984), as determined by observations in the field or from topographic mapping.

Pebble - a waterworn stone less than 64 mm in diameter. Refer also to *cobble*.

Pebble (waterworn) cortex - the topographically smooth weathered surface of a stone, which occurs with a continuous curve.

Petrified wood - a banded brown and grey rock, originating from the replacement of the original wood by silica. Petrified (or 'fossilised') wood is another form of chert. After dead wood is buried by sediment, often containing volcanic ash, water infiltrates it leading to the replacement of the wood by silica. When petrified wood is struck along what was the original grain, an irregular fracture results.

Platform faceting - a series of flakes removed transversely, to set up the platform of a microblade core. These flake detachments create ridges where the margins of the scars meet or overlap, and such ridges provide surface prominences that are the hammerstone's point of contact. These ridges allow for more precise flaking of microblades.

Platform preparation - flaking the surface of a core's initiation platform (*platform faceting*) and removal of any overhanging edge (spur removal) to create a suitable topography and geometry for microblade detachment.

Porphyritic rhyolite – a form of *rhyolite* which contains small, widely spaced crystal inclusions.

Potential resource - archaeological evidence predicted to occur through application of a predictive model of site location.

Potlid - a piece of lithic material that has a generally convex or dome-shaped ventral surface, often with evidence of fracture initiation from a location within the surface and not from the edge. Detached by heating and cooling, not percussive blows.

Provenance - the location of a lithic item within an excavation or surface assemblage.

Proximal - the top part of a flake, beginning with the initiation surface or ridge. Likewise for an implement (or tool). The opposite end of the flake is termed the distal end.

Quarry (lithic quarry, stone procurement site) - a general term for the location of an exploited stone source (Hiscock and Mitchell 1993:32). Often in archaeological studies it is used in a more specific sense, to refer to places where stone was obtained by excavation from a bedrock source (*lithic quarry*).

Quartz - a mineral composed of crystalline silica (SiO2). Quartz is a very stable mineral that does not alter chemically during weathering or metamorphism. It is hard, usually colourless or white ('milky'). In its massive form quartz occurs as geodes or veins, from which pebbles are formed by weathering. Despite the often unpredictable nature of fracture in quartz, the flakes tend to have sharp edges. Flakes made from quartz were widely used in Australia as convenient light-duty cutting tools.

Quartzite - A hard, silica rich stone formed from a sandstone that has been recrystallised by heat (metaquartzite) or strengthened by slow infilling of silica in the voids between sand grains (orthoquartzite). The essential difference between sandstone and quartzite is that major fracture will propagate around the larger grains in sandstone and through the grains in quartzite.

Reduction process - the process of removing flakes from a core, or manufacturing an implement by flaking and/or grinding, or progressively rejuvenating a tool's working edge.

Reduction strategy - strategy of flaking and/or grinding a piece of stone in predetermined stages to produce an implement.

Residues on stone tools - residue analysis concerns the identification of tool use activities from preserved organic and inorganic residues of worked materials. These residues may be compacted into small flake scars on the edges of utilised artefacts or adhere strongly to their surfaces.

Retouch or *retouching* - an area of flake scars on an artefact resulting from intentional shaping or resharpening of a stone tool. In resharpening a cutting edge, the retouch is invariably found only on one side.

Retouched flake - an artefact or portion of an artefact from which flakes have been removed after the manufacture of the original flake.

Retouched flake - utilised - retouched flake which displays macroscopic evidence of use.

Retouched piece - an artefact from which flakes have been removed after the manufacture of the original flake, but which lacks sufficient morphological attributes to identify it as a flake or other artefact type.

Rhyolite - acid lavas containing free quartz. It is the fine-grained volcanic or extrusive equivalent of granite. Rhyolite is typically light in colour, relatively light in weight and often has a flinty appearance. Two principal varieties can be identified, *banded rhyolite*, which possesses coloured bands, and *porphyritic rhyolite*, which contains small, widely spaced crystal inclusions.

Ridge crest - landform element that stands above most or all of the surrounding points in the adjacent terrain, typically smoothly convex upwards and with a length greater than the width of the landform element (after McDonald *et al* 1984).

Sandstone - a cemented or compacted rock consisting of detrital grains, which range in size from 1/16 mm to 2 mm in diameter. Quartz typically comprises the majority of grains. The grains can be bound together by a cement of silica, carbonate or other minerals, or a matrix of clay minerals. The nature of the cement is denoted by terms such as argillaceous (clayey), calcareous, ferruginous and tuffaceous sandstone.

Scarred tree - scarred trees contain scars caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Other trees may exhibit carvings made in relation to burial practices or spiritual beliefs.

Silcrete - a brittle, intensely indurate rock composed mainly of quartz clasts cemented by a matrix which may be well-crystallised quartz, cryptocrystalline quartz or amorphous (opaline) silica (Langford-Smith 1978:3). The texture of silcrete reflects that of the host rock and clasts may range in size from very fine grains to boulders. Silcrete is produced by an absolute accumulation of silica, which is made available by chemical weathering. The formation of silcrete therefore requires the removal of most elements, other than silicon, in the host material. Silcrete is normally grey in colour, but can be whitish, red, brown or yellow. It shatters readily into sharp, angular pieces with a conchoidal fracture and newly broken rocks have a semi-vitreous sheen (Langford-Smith 1978:4).

Simple slope - slope landform element adjacent below a crest or flat and adjacent above a flat or depression (after McDonald *et al* 1984). For the purposes here, this unit also includes *upper slopes*, *mid-slopes* and *lower slopes* as these become problematic to differentiate on the surface or on base mapping.

Site - location of evidence of Aboriginal occupation.

Site integrity - the extent to which the distribution of site contents corresponds to their spatial relationships at the time of deposition. Subsequent to deposition, a range of post-depositional processes affect the spatial relationships of items, and therefore site integrity.

Size class - artefact size as the maximum measurement in any direction, in units of 10 mm. For example, class '1' equals items with a maximum dimension of up to 10 mm and size class '2' equals items with a maximum dimension of between 10 and 20 mm.

Slope (class of slope) - gradient delineated after McDonald *et al* (1984):

Level/very gentle - level to very gently inclined slopes <1°45´;
Gentle - gently inclined slopes >1°45´ and <5°45´; and
Moderate - moderately inclined slopes >5°45´ and <18°.

Spit - a level in which an excavation unit is excavated.

Spur crest - landform element comprising a *ridge crest* that descends from a dominant or main ridge crest to adjacent lower elevation terrain.

Stone arrangement - stone arrangements include circles, mounds, lines or other patterns of stone arranged by Aboriginal people.

Stone artefact - a piece of stone with evidence of intentional human modification.

Stone layer - a sheet, or layer, of gravel sized stones, found within a soil deposit. Commonly formed at the lower limit of bioturbation, or in duplex soils, at the junction of the A and B units. The stone layer may also contain a concentration of stone artefacts.

Stone material - the geological type of stone from which an artefact is made. Synonymous with ‘lithic material’, ‘stone type’ and ‘raw material’, the latter of which is a less specific but commonly used term.

Stone procurement site (quarry) - a general term for the location of an exploited stone source. Sources can vary from alluvial gravels (where there may be little or no archaeological evidence of human activity) to extensively quarried outcrops of bedrock, where there is clear evidence of procurement activity such as pits, discarded hammerstones and large deposits of primary flaking debris (refer also to *quarry, lithic quarry*).

Stone tool - a piece of flaked or ground stone used in an activity or fashioned for use as a tool. A synonym of stone tool is *implement*, which is more often used to describe a flake tool fashioned by more delicate flaking (retouch).

Sub-surface deposit - identified or predicted deposits of artefacts buried under the surface, both in open contexts and within rock shelters.

Surface visibility - a mean estimate of the percentage of visible ground surface within a *total sample area* or a *site*. Where a single component's *sample area* is comprised of multiple exposures, the surface visibility was recorded separately and the range of the surface visibility percentages noted in the database.

Survey area - an area sampled during the present survey, consisting of a single archaeological terrain unit or *environmental context* that is bounded on all sides by different archaeological terrain units or environmental contexts.

Tabular cortex (*abbr. = tab*) - weathered surface of a tabular shaped cobble.

Terrestrial cortex (rough and weathered cortex; abbr. = terr) - a cortical surface which has developed by weathering of a fractured surface. Includes surfaces which have been weathered after natural fracturing along faults and exfoliation. Indicative of a terrestrial, not an alluvial source. The topographically rough weathered surface of a stone differs from that of *waterworn (pebble)* or *tabular* cortex.

Total sample area - the quantity or area of ground surface within a *survey area* physically inspected in such a manner as to reliably enable the detection of heritage evidence.

Tuff - lithified volcanic ash with a chemical composition of rhyolite. This stone has been commonly misidentified as *indurated mudstone* and *chert*. Tuff is composed of fine ash which has been hurled from the vent of a volcano during a violent explosive eruption. The tuff is rhyolitic in chemical composition, being comprised of quartz and potassium-feldspar, sometimes with layer silicates. After settling to the land, or more likely ponded water, the tuff undergoes recrystallisation at low pressures. This 'indurated' rhyolitic tuff exhibits conchoidal fractures. Colour is predominantly grey but variation occurs when mineral bearing solutions pass through the rock and some minerals (eg. goethite) precipitate out. Some tuff deposits show graded bedding, not unlike that of some sedimentary rocks. Lateral sorting also tends to occur, with coarser material settling closer to the volcanic vent and finer material further away.

Use-wear - microscopic and macroscopic damage to the surfaces of a stone implement resulting from its use. Examination for use-wear is aided by low-magnification microscopy. Major use-wear forms are edge fractures, use-polish and smoothing, abrasion, and edge rounding and bevelling.

Utilised - Artefacts which display evidence of macroscopic use-wear or polish. For example: an unretouched flake which exhibits use-wear is labelled *flake - utilised.* Artefacts which by definition explicitly comprise use-wear (such as *grindstones*) are not noted separately as *utilised*.

Utilised flake or piece - a flake or lithic fragment displaying utilisation wear along one or more edges from use as a hand-held tool or as part of a composite wood and stone implement or weapon. The wear may be edge-rounding, surface polish, abrasive smoothing or abrasion such pitting and scratching ('striations').

Ventral face - the inside surface of a flake created during the flake's formation. The speed of the fracture ranges from about 200 metres to over 1000 metres per second (refer also to *dorsal face*).

Visible extent of artefacts - for each *site*, the approximate dimensions of the area in which artefacts are visible.

Visible extent of surface exposures - the approximate dimensions of a surface exposure in which a *site* has been identified.

Visible site area - for each *site locus*, the gross surface area in which artefacts are visible, typically calculated by multiplying the dimensions of the *visible extent of evidence.*

Volcanic - rocks produced from the discharge of volcanic matter. Includes crystalline rock, such as granite, formed by the consolidation of magma, and fine-grained igneous rocks that result from more rapid cooling (eg. basalt).

Waterworn (pebble) cortex - the topographically smooth weathered surface of a stone, which occurs with a continuous curve.

APPENDIX 2.

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Planning & Assessment
Energy & Resource Assessments
Contact: Lauren Evans
Phone: 9274 6311
Email: [redacted]

Stirling Bartlam
On behalf of MACH Energy Australia Pty Ltd
Suite 2, Level 3
24 McDougall Street
MILTON Queensland 4064

17/02/2020

Dear Mr Bartlam

Mount Pleasant Optimisation Project (SSD-10418)
Planning Secretary's Environmental Assessment Requirements

Please find attached the Planning Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Statement (EIS) for the Mount Pleasant Optimisation Project. These requirements have been prepared in consultation with relevant public authorities based on the information you have provided to date. The agencies' comments are attached for your information (see Attachment 2). You must have regard to these comments in the preparation of the EIS.

Please note that the Planning Secretary may modify these requirements at any time. If you do not submit a development application (DA) and EIS for the development within 2 years, you must consult further with the Planning Secretary in relation to the preparation of the EIS.

Prior to exhibiting the EIS, the Department of Planning, Industry and Environment (the Department) will review the document in consultation with relevant authorities to determine if it addresses these SEARs. You may be required to submit an amended EIS if it does not adequately address these requirements.

Please contact the Department at least two weeks before you propose to submit your DA and EIS. This will enable the Department to provide lodgement instructions, confirm the applicable fee, determine the required number of copies of the EIS and discuss potential exhibition periods.

The Department is currently developing a new environmental impact assessment guidance series for State significant projects in NSW which is likely to include a specific guideline for preparing an EIS. It is recommended that MACH Energy Australia Pty Ltd (MACH Energy) has regard to this guidance series, if released during preparation of the EIS.

The Department recognises that MACH Energy has already commenced stakeholder engagement as part of its routine consultation program and to inform its Social Impact Assessment (SIA). Further, the Department has reviewed the SIA Scoping Report for the project which has been prepared in accordance with the Department's *Social Impact Assessment Guideline*. The Department will provide detailed comments on the SIA Scoping Report separately. You are encouraged to have regard to these comments when undertaking the SIA for the EIS.

The Department wishes to emphasise the importance of continued effective and genuine community consultation during the preparation of the EIS. This process should provide the community with a clear understanding of the proposal and its potential impacts and include active engagement with the community regarding key issues of concern.

If your development is likely to have a significant impact on matters of National Environmental Significance, it will also require approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval would be in addition to any approvals required under NSW legislation;

however, there may be opportunity to streamline the two assessment processes in accordance with the Bilateral Agreement between the NSW and Commonwealth governments. Please contact the Commonwealth Department of the Environment and Energy to determine if an approval under the EPBC Act is required (http://www.environment.gov.au or 6274 1111).

If you have any enquiries about these requirements, please contact Lauren Evans on the details listed above.

Yours sincerely



Matthew Sprott
A/Director
Resource Assessments (Coal & Quarries)

as delegate for the Planning Secretary

Planning Secretary's Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Application Number	SSD-10418
Proposal	The Mount Pleasant Optimisation Project, which includes: · extending the life of open cut mining operations until 2048; · increasing the depth of the open cut pit to mine deeper coal seams; · increasing the annual extraction and production rate to a maximum of 21 million tonnes of run-of-mine coal per year; · upgrading coal handling and processing infrastructure; and · changes to overburden emplacement and to the approved final landform.
Location	1100 Wybong Road, Muswellbrook
Applicant	MACH Energy Australia Pty Ltd
Date of Issue	17/02/2020
General Requirements	The Environmental Impact Statement (EIS) for the development must comply with the requirements of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.* In particular, the EIS must include: · a stand-alone executive summary; · a full description of the development, including: - historical mining operations on and nearby the site; - the resource to be extracted (size and quality), demonstrating efficient resource recovery within environmental constraints; - the mine layout and scheduling; - coal production rates (run-of-mine and product); - coal processing and transport arrangements; - infrastructure and facilities (including any existing infrastructure or infrastructure that would be required for the development, but the subject of a separate approval process); - workforce requirements during all phases of the development (on a full-time equivalent basis); - surface disturbance footprint; - a waste (overburden, coarse rejects, tailings, etc) management strategy; - a water management strategy; - a rehabilitation strategy; - the likely interactions between the development and any other existing, approved or proposed mining development or power station in the vicinity of the site; · a strategic justification of the development focusing on site selection and the suitability of the proposed site; · a list of any approvals that must be obtained before the development may commence; · an assessment of the likely impacts of the development on the environment, focusing on the key issues identified below, including: - a description of the existing environment likely to be affected by the development, using sufficient baseline/background data; - an assessment of the likely impacts for all stages of the development, including any cumulative impacts, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans

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	and industry codes of practice; · a description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the likely impacts of the development, and an assessment of: - whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented; - the likely effectiveness of these measures; and - whether contingency measures would be necessary to manage any residual risks; · a description of the measures that would be implemented to monitor and report on the environmental performance of the development; · a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS; · consideration of the development against all relevant environmental planning instruments (including Part 3 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007);* · the reasons why the development should be approved, having regard to: - relevant matters for consideration under the *Environmental Planning and Assessment Act 1979*, including the objects of the Act; - the biophysical, economic and social impacts of the development, including the principles of ecologically sustainable development; - the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses; and - feasible alternatives to the development (and its key components), including the consequences of not carrying out the development; · a signed statement from the author of the EIS, certifying that the information contained within the document is neither false nor misleading. While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development. In addition to the matters set out in Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*, the development application must be accompanied by an: · **Estimate of Capital Investment Value** - a signed report from a suitably qualified and experienced person that includes an accurate estimate of the capital investment value (as defined in Clause 3 of the *Environmental Planning and Assessment Regulation 2000*), including details of all the assumptions and components from which the capital investment value calculation is derived.
Key Issues	The EIS must address the following key issues: · **Air Quality –** including: - a detailed assessment of potential construction and operational air quality impacts, in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW,* and with a particular focus on particulate matter ($PM_{2.5}$ and PM_{10}) emissions, and having regard to the *Voluntary Land Acquisition and Mitigation Policy*; and - an assessment of the likely greenhouse gas emissions of the development; · **Noise & Blasting –** including: - a detailed assessment of the likely construction, operational and off- site transport noise impacts of the development in accordance with the *Interim Construction Noise Guideline*, *NSW Noise Policy for Industry* and the *NSW Road Noise Policy* respectively, and having regard to the *Voluntary Land Acquisition and Mitigation Policy*;

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	- proposed blasting hours, frequency and methods; and - a detailed assessment of the likely blasting impacts of the development (including ground vibrations, overpressure, flyrock, visual and fumes/odour) on people, animals, buildings/structures, infrastructure and significant natural features, having regard to the relevant ANZEC guidelines; · **Water –** including: - a detailed site water balance, including a description of site water demands, water disposal methods (inclusive of volume and frequency of any water discharges), water supply infrastructure and water storage structures; - identification of any licensing requirements or other approvals under the *Water Act 1912* and/or *Water Management Act 2000*; - demonstration that water for the construction and operation of the proposed development can be obtained from an appropriately authorised and reliable supply in accordance with the operating rules of any relevant Water Sharing Plan (WSP) or water source embargo; - an assessment of any likely flooding impacts of the development; - the measures which would be put in place to control sediment run-off and avoid erosion; - an assessment of the likely impacts of the development on the quantity and quality of existing surface and groundwater resources including a detailed assessment of proposed water discharge quantities and quality against receiving water quality and flow objectives; and - an assessment of the likely impacts of the development on aquifers, watercourses, riparian land, water-related infrastructure, and other water users; · **Visual –** including a detailed assessment of the likely visual impacts of the development (during and post-mining) on private landowners in the vicinity of the development and key vantage points in the public domain (including views from public roads), paying particular attention to any new or modified landforms, and to minimising lighting impacts; · **Rehabilitation and Final Landform –** including - a description of final landform design objectives, having regard to achieving a natural landform that is safe, stable, non-polluting, fit for the nominated post-mining land use and sympathetic with surrounding landforms; - an analysis of final landform options, including the short and long-term cost and benefits, constraints and opportunities of each, and detailed justification for the preferred option; - identification and assessment of post-mining land use options, having regard to any relevant strategic land use planning or resource management plans/policies; - rehabilitation objectives and completion criteria to achieve the nominated post-mining land use; - a detailed description of the progressive rehabilitation measures that would be implemented over the life of the development and how this rehabilitation would be integrated with surrounding mines and land uses; - a detailed description of the proposed rehabilitation and mine closure strategies for the development, having regard to the key principles in *Strategic Framework for Mine Closure*; and - the measures which would be put in place for the long-term protection and/or management of the site and any biodiversity offset areas post-mining; · **Biodiversity –** including: - accurate predictions of any vegetation to be cleared on site; - an assessment of the likely biodiversity impacts of the development, paying particular attention to threatened species, populations and ecological communities and groundwater dependent ecosystems, undertaken in

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accordance with the *Biodiversity Assessment Method* and documented in a Biodiversity Development Assessment Report;
- in the event that a 'land swap' option is proposed, an assessment of any land identified for relinquishment, undertaken in accordance with the *Biodiversity Assessment Method* and documented in a Biodiversity Development Assessment Report; and
- a strategy to offset any residual impacts of the development in accordance with the offset rules under the *Biodiversity Offsets Scheme*;

· **Heritage –** including:
- an assessment of the potential impacts of the development on Aboriginal heritage (cultural and archaeological), including consultation with relevant Aboriginal communities/parties and documentation of the views of these stakeholders regarding the likely impact of the development on their cultural heritage; and
- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items;

· **Traffic & Transport –** including:
- an assessment of the likely transport impacts of the development on the capacity, condition, safety and efficiency of the road and rail networks, including undertaking a road safety audit; and
- a description of the measures that would be implemented to mitigate any impacts, including concept plans for any proposed upgrades, developed in consultation with the relevant roads authority;

· **Land Resources –** including:
- an assessment of the likely impacts of the development on the soils and land capability of the site and surrounds, paying particular attention to strategic agricultural land;
- an assessment of the agricultural impacts of the development; and
- an assessment of the compatibility of the development with other land uses in the vicinity of the development, in accordance with the requirements of Clause 12 of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, paying particular attention to any potential impacts on Critical Industry Clusters;

· **Waste –** including estimates of the quantity and nature of the waste streams that would be generated by the project (including tailings and coarse rejects) and any measures that would be implemented to minimise, manage or dispose of these waste streams;

· **Hazards –** including:
- an assessment of the likely risks to public safety, paying particular attention to potential bushfire risks, interactions with any nearby prescribed dams, and the handling and use of any dangerous goods; and
- a health risk assessment that considers the adverse effects from human exposure to acute and cumulative project related environmental hazards, in accordance with *Environmental Health Risk Assessment: Guidelines for assessing human health risk from environmental hazards*;

· **Social –** including a detailed assessment of the potential social impacts of the development that builds on the findings of the Social Impact Assessment Scoping Report, in accordance with the *Social impact assessment guideline for State significant mining, petroleum production and extractive industry development 2017*, paying particular consideration to:
- how the development might affect people's way of life, community, access to and use of infrastructure, services and facilities, culture, health and wellbeing, surroundings, personal and property rights, decision-making systems, and fears and aspirations;
- the principles in Section 1.3 of the guideline; and
- the review questions in Appendix D of the guideline;

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	· **Economic –** including a detailed assessment of the likely economic impacts of the development, in accordance with the *Guidelines for the economic assessment of mining and coal seam gas proposals 2015*, paying particular attention to: - the costs and benefits of the project; identifying whether the development as a whole would result in a net benefit to NSW, including consideration of fluctuation in commodity markets and exchange rates; and - the demand on community infrastructure and services; and · **Cumulative Impacts –** including a detailed assessment of the cumulative impacts of the development, in combination with other existing and approved mining projects in the locality, with a particular focus on air quality, noise, traffic and social impacts, as well as impacts on water resources.
Consultation	During the preparation of the EIS, you must consult with relevant local, State and Commonwealth Government authorities, service providers, Aboriginal stakeholders, community groups and affected landowners. In particular you must: · consult with: - affected landowners; - the Mount Pleasant Coal Mine Community Consultative Committee; - local community groups; - Muswellbrook Shire Council; - the Biodiversity and Conservation Division within the Department; - the NSW Heritage Council; - the Environment Protection Authority; - the Resources Regulator; - the Division of Resources and Geoscience within the Department; - the Water Group within the Department; - the Crown Lands Group within the Department; - Primary Industries (including NSW Forestry, Agriculture and Fisheries); - Hunter Local Land Services; - NSW Health; and - Transport for NSW. The EIS must: · describe the consultation process used and demonstrate that effective consultation has occurred; · describe the issues raised; · identify where the design of the development has been amended and/or mitigation proposed to address issues raised; and · otherwise demonstrate that issues raised have been appropriately addressed in the assessment.
Further consultation after 2 years	If you do not lodge a development application and EIS for the development within 2 years of the issue date of these requirements, you must consult further with the Planning Secretary in relation to the preparation of the EIS.

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ATTACHMENT 1

Environmental Planning Instruments, Policies, Guidelines & Plans

Land	
	Interim Protocol for Site Verification & Mapping of Biophysical Strategic Land (OEH)
	Soil and Landscape Issues in Environmental Impact Assessment (NOW)
	Agfact AC.25: Agricultural Land Classification (NSW Agriculture)
	Guideline for Preparing Agricultural Impact Statements (DPI 2012) and the Agricultural Impact Statement Technical Notes 2013 (DPI)
	Upper Hunter Strategic Regional Land Use Plan 2012 (DPI)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
	Land Use Conflict Risk Assessment Guide (DPI)
Water	
Water Sharing Plans	Hunter Unregulated and Alluvial Water Sources 2009
	Hunter Regulated River Water Source
Groundwater	NSW State Groundwater Policy Framework Document (NOW)
	NSW State Groundwater Quality Protection Policy (NOW)
	NSW State Groundwater Quantity Management Policy (NOW)
	NSW Aquifer Interference Policy 2012 (NOW)
	Australian Groundwater Modelling Guidelines 2012 (Commonwealth)
	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	Guidelines for the Assessment & Management of Groundwater Contamination (EPA)
Surface Water	Hunter River Salinity Trading Scheme (EPA)
	NSW State Rivers and Estuary Policy (NOW)
	NSW Government Water Quality and River Flow Objectives (EPA)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (EPA)
	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality

	Monitoring and Reporting (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (EPA)
	Managing Urban Stormwater: Soils & Construction (Landcom) and associated Volume 2E: Mines and Quarries (DECC)
	Managing Urban Stormwater: Treatment Techniques (EPA)
	Managing Urban Stormwater: Source Control (EPA)
	Technical Guidelines: Bunding & Spill Management (EPA)
	Environmental Guidelines: Use of Effluent by Irrigation (EPA)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	NSW Guidelines for Controlled Activities (NOW)
Flooding	Floodplain Development Manual (OEH)
	Floodplain Risk Management Guideline (OEH)
Biodiversity	
	Biodiversity Assessment Method (OEH)
	Fisheries NSW policies and guidelines
	Guidelines for developments adjoining Department of Environment, Climate Change and Water (DECCW, 2010)
	Guidelines for Threatened Species Assessment (DP&E)
	Guidance to assist a decision-maker to determine a serious and irreversible impact (OEH)
	NSW State Groundwater Dependent Ecosystem Policy (NOW)
	Revocation, recategorisation and road adjustment policy (OEH, 2012)
	Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW)
	State Environmental Planning Policy No. 44 – Koala Habitat Protection
Heritage	
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH)
	Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010 (DECCW)
	Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010 (DECCW)
	Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in

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	NSW (OEH)
	NSW Heritage Manual 1996 (OEH)
	Statements of Heritage Impact (OEH)
	Assessing Significance for Historical Archaeological Sites and Relics 2009 (OEH)
	Hunter Regional Environmental Plan 1989 (Heritage)
Noise & Blasting	
	NSW Noise Policy for Industry (EPA)
	Interim Construction Noise Guideline (DECC)
	NSW Road Noise Policy (EPA)
	Rail Infrastructure Noise Guideline (EPA)
	Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments (DP&E)
	Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC)
	Assessing Vibration: A Technical Guideline (DEC)
Air	
	Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (EPA)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA)
	Coal Mine Particulate Matter Control Best Practice – Site Specific Determination Guideline (EPA)
	Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)
	National Greenhouse Accounts Factors (Commonwealth)
	Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments 2018 (DP&E)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RMS) & relevant Austroads Standards
Hazards	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Hazardous and Offensive Development Application Guidelines – Applying SEPP 33
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
	Planning for Bush Fire Protection 2006 (RFS)

Resource	
	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (JORC)
Waste	
	Waste Classification Guidelines (DECC)
Rehabilitation	
	Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth)
	Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth)
	Strategic Framework for Mine Closure (ANZMEC-MCA)
Social & Economic	
	Guidelines for the economic assessment of mining and coal seam gas proposals 2015 (NSW Government)
	Social impact assessment guideline for State significant mining, petroleum production and extractive industry development 2017 (DP&E)
Environmental Planning Instruments - General	
	State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
	State Environmental Planning Policy (State and Regional Development) 2011
	State Environmental Planning Policy (Infrastructure) 2007
	Muswellbrook Local Environment Plan 2009
	Hunter Regional Plan 2036

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ATTACHMENT 2

Agencies' Correspondence

Planning, Industry & Environment

Our ref: DOC20/5454
Your ref: SSD-10418

8 January 2020

Lauren Evans
Team Leader
Energy and Resource Assessments
Planning and Assessment
Department of Planning, Industry and Environment

[redacted]

Dear Ms Evans

Input into Secretary's Environmental Assessment Requirements – State Significant Development – Mount Pleasant Optimisation Project – Muswellbrook LGA (SSD-10418)

I refer to your email dated 6 January 2020 seeking input into the Secretary's Environmental Assessment Requirements (SEARs) for the Mount Pleasant Optimisation Project. The proposed development is within the Muswellbrook local government area.

The Biodiversity and Conservation Division (BCD) understands that the development involves extending the life of open cut mining operations until 2048, mining deeper coal seams to extract an additional 250 million tonnes of run-of-mine (ROM) coal, and extracting and processing up to 21 million tonnes of ROM coal per year. BCD understands that the proposal is a State Significant Development (SSD) project under the *Environmental Planning and Assessment Act 1979*.

BCD has reviewed the Scoping Report prepared in support of a request for Secretary's Environmental Assessment Requirements dated December 2019 as prepared by MACH Energy and has prepared Standard SEARs which are presented in **Attachment A**. There are no project-specific SEARs provided for this project (**Attachment B**). Details of guidance documents are provided in **Attachment C**.

With respect to Aboriginal cultural heritage, BCD notes that any Aboriginal cultural heritage assessment undertaken prior to 2010 is unlikely to meet current BCD Aboriginal cultural heritage guidelines for the assessment of Aboriginal cultural heritage in NSW. The *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) should be referenced in this instance.

If you have any further questions in relation to this matter, please contact Robert Gibson, Senior Regional Biodiversity Conservation Planning Officer, on 4927 3154.

Yours sincerely

N Davis

NICOLE DAVIS
A/Senior Team Leader Planning
Hunter Central Coast Branch
Biodiversity and Conservation Division
Enclosure: Attachments A, B, C

Attachment A – Standard Environmental Assessment Requirements

Biodiversity

1. Biodiversity impacts related to the proposed development (SSD 10418) are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the *Biodiversity Conservation Act 2016* (s6.12), *Biodiversity Conservation Regulation 2017* (s6.8) and Biodiversity Assessment Method.
2. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.
3. The BDAR must include details of the measures proposed to address the offset obligation as follows;
   - The total number and classes of biodiversity credits required to be retired for the development/project;
   - The number and classes of like-for-like biodiversity credits proposed to be retired;
   - The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;
   - Any proposal to fund a biodiversity conservation action;
   - Any proposal to conduct ecological rehabilitation (if a mining project);
   - Any proposal to make a payment to the Biodiversity Conservation Fund.

   If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.
4. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the *Biodiversity Conservation Act 2016*.

Aboriginal cultural heritage

5. The Environmental Impact Assessment (EIS) must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with BCD regional branch officers.
6. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.

7. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to BCD.
Historic heritage
8. The EIS must provide a heritage assessment including but not limited to an assessment of impacts to State and local heritage including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall: a. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996), b. be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria), c. include a statement of heritage impact for all heritage items (including significance assessment), d. consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and e. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.
Water and soils
9. The EIS must map the following features relevant to water and soils including: a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map). b. Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method). c. Wetlands as described in s4.2 of the Biodiversity Assessment Method. d. Groundwater. e. Groundwater dependent ecosystems. f. Proposed intake and discharge locations.

10. The EIS must describe background conditions for any water resource likely to be affected by the development, including:
    a. Existing surface and groundwater.
    b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
    c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
    d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.

11. The EIS must assess the impacts of the development on water quality, including:
    a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
    b. Identification of proposed monitoring of water quality.

12. The EIS must assess the impact of the development on hydrology, including:
    a. Water balance including quantity, quality and source.
    b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
    c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
    d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
    e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.
    f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
    g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal erosion

13. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    a. Flood prone land.
    b. Flood planning area, the area below the flood planning level.
    c. Hydraulic categorisation (floodways and flood storage areas).

14. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.

15. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:
    a. Current flood behaviour for a range of design events as identified in 11 above. This includes the 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.

16. Modelling in the EIS must consider and document:
    a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
    b. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
    c. Relevant provisions of the NSW Floodplain Development Manual 2005.

17. The EIS must assess the impacts on the proposed development on flood behaviour, including:
    a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    b. Consistency with Council floodplain risk management plans.
    c. Compatibility with the flood hazard of the land.
    d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
    g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
    h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.
    i. Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.
    j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

18. The [EIS/EA] must describe the potential effects of coastal processes and hazards (within the meaning of the Coastal Management Act 2016), including sea level rise and climate change: a. On the proposed development b. Arising from the proposed development.
19. The [EIS/EA] must consider have regard to any certified Coastal Management Program (or Coastal Zone Management Plan) and be consistent with the management objectives described in the Coastal Management Act 2016 and development controls for coastal management areas mapped under the State Environmental Planning Policy (Coastal Management) 2018.

Attachment B – Project specific environmental assessment requirements

Biodiversity - nil
Aboriginal cultural heritage - nil
Historic heritage - nil
Water and soils - nil
Flooding and coastal erosion - nil

Attachment C – Guidance material

Title	Web address
Relevant legislation	
Biodiversity Conservation Act 2016	https://www.legislation.nsw.gov.au/#/view/act/2016/63/full
Coastal Management Act 2016	https://www.legislation.nsw.gov.au/#/view/act/2016/20/full
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Fisheries Management Act 1994	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
Marine Parks Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
National Parks and Wildlife Act 1974	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Water Management Act 2000	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Wilderness Act 1987	http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
Biodiversity	
Biodiversity Assessment Method (OEH, 2017)	http://www.environment.nsw.gov.au/resources/bcact/biodiversity-assessment-method-170206.pdf
Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)	http://www.environment.nsw.gov.au/resources/bcact/guidance-decision-makers-determine-serious-irreversible-impact-170204.pdf
NSW Guide to Surveying Threatened Plant	http://www.environment.nsw.gov.au/resources/threatenedspecies/160129-threatened-plants-survey-guide.pdf
Fisheries NSW policies and guidelines	http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
Guidelines for developments adjoining land and water managed by the	http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm

Title	Web address
Department of Environment, Climate Change and Water (DECCW, 2010)	
Heritage	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
Statements of Heritage Impact 2002 (HO & DUAP)	http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf
NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N')	http://www.environment.nsw.gov.au/Heritage/publications/
Aboriginal cultural heritage	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
Acid sulphate soils	
Acid Sulfate Soils Planning Maps via Data.NSW	http://data.nsw.gov.au/data/
Acid Sulfate Soils Manual (Stone et al. 1998)	http://www.environment.nsw.gov.au/resources/epa/Acid-Sulfate-Manual-1998.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.environment.nsw.gov.au/resources/soils/acid-sulfate-soils-laboratory-methods-guidelines.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and coastal erosion	
Reforms to coastal erosion management	http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm

Title	Web address
Floodplain development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf
NSW Climate Impact Profile	http://climatechange.environment.nsw.gov.au/
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

APPENDIX 3.

PLATES



Plate 1: View south-east towards Muswellbrook (five kilometres in the distance) across part of the north-eastern portion of the SSD Area.



Plate 2: An example of Zone A "*Existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance*" in the north-eastern portion of the SSD Area (view south to Mount Arthur, 15 kilometres distant).



Plate 3: An example of Zone A in the central portion of the SSD Area (view east to Bells Mountain, 12 kilometres distant).



Plate 4: An example of Zone A in the central portion of the SSD Area (view south towards central Zone B2, *Areas in which additional SSD primary disturbance is proposed, has been subject to previous heritage survey but not covered by an AHIP*).



Plate 5: View south-east across north-western portion of SSD Area from Survey Area SSD4 showing part of Zone C (*Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design*).



Plate 6: View south across north-western portion of SSD Area from Survey Area SSD4 showing part of Zone C.



Plate 7: View south-west across north-western portion of SSD Area from Survey Area SSD4 showing part of Zone C.



Plate 8: Representatives of the Registered Aboriginal Parties (David Horton and Leanne Kirkman) inspecting Zone B2 in the western portion of the SSD Area, where Conservation Area C had previously been proposed.



Plate 9: Representatives of the Registered Aboriginal Parties (David Horton and Leanne Kirkman) and Chloe Annandale (MACH) during survey of Zone B3 (*Areas in which additional SSD primary disturbance is proposed, not subject to previous heritage survey but covered by an AHIP*) and Zone B4 (*Areas in which additional SSD primary disturbance is proposed, not subject to previous heritage survey and not covered by an AHIP*) (Survey Area SSD1 along Dorset Road).



Plate 10: Survey Area SSD2 near Dorset Road during heritage survey of Zones B3 and B4 in November 2019.



Plate 11: Representatives of the Registered Aboriginal Parties (David Horton and Leanne Kirkman), Corey O'Driscoll (South East Archaeology) and Chloe Annandale (MACH) during survey of Zones B3 and B4 (Survey Areas SSD4-6).



Plate 12: Representatives of the Registered Aboriginal Parties (David Horton and Leanne Kirkman) and Chloe Annandale (MACH) during survey of Zones B3 and B4 (Survey Area SSD8).

APPENDIX 4.

DETAILED MAPPING OF SSD AREA AND ABORIGINAL HERITAGE SITE LOCATIONS

Mapping Key:

Aerial photograph and one metre contours courtesy MACH

All mapping orientated to grid north with one kilometre GDA 56 (MGA) grid



SSD Application Area



Revision 4 MPO Aboriginal Site Database Area



Conservation Area A

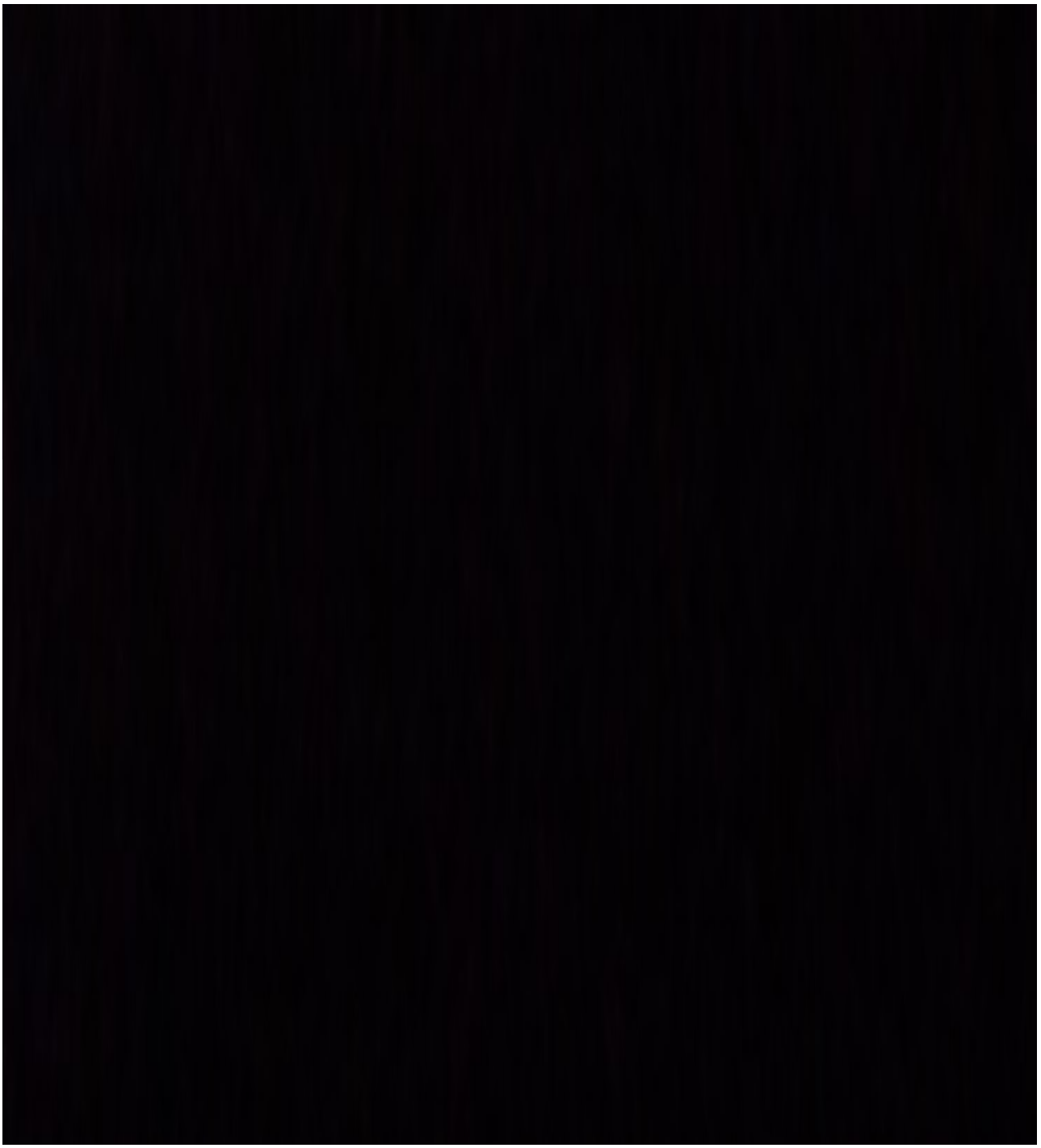


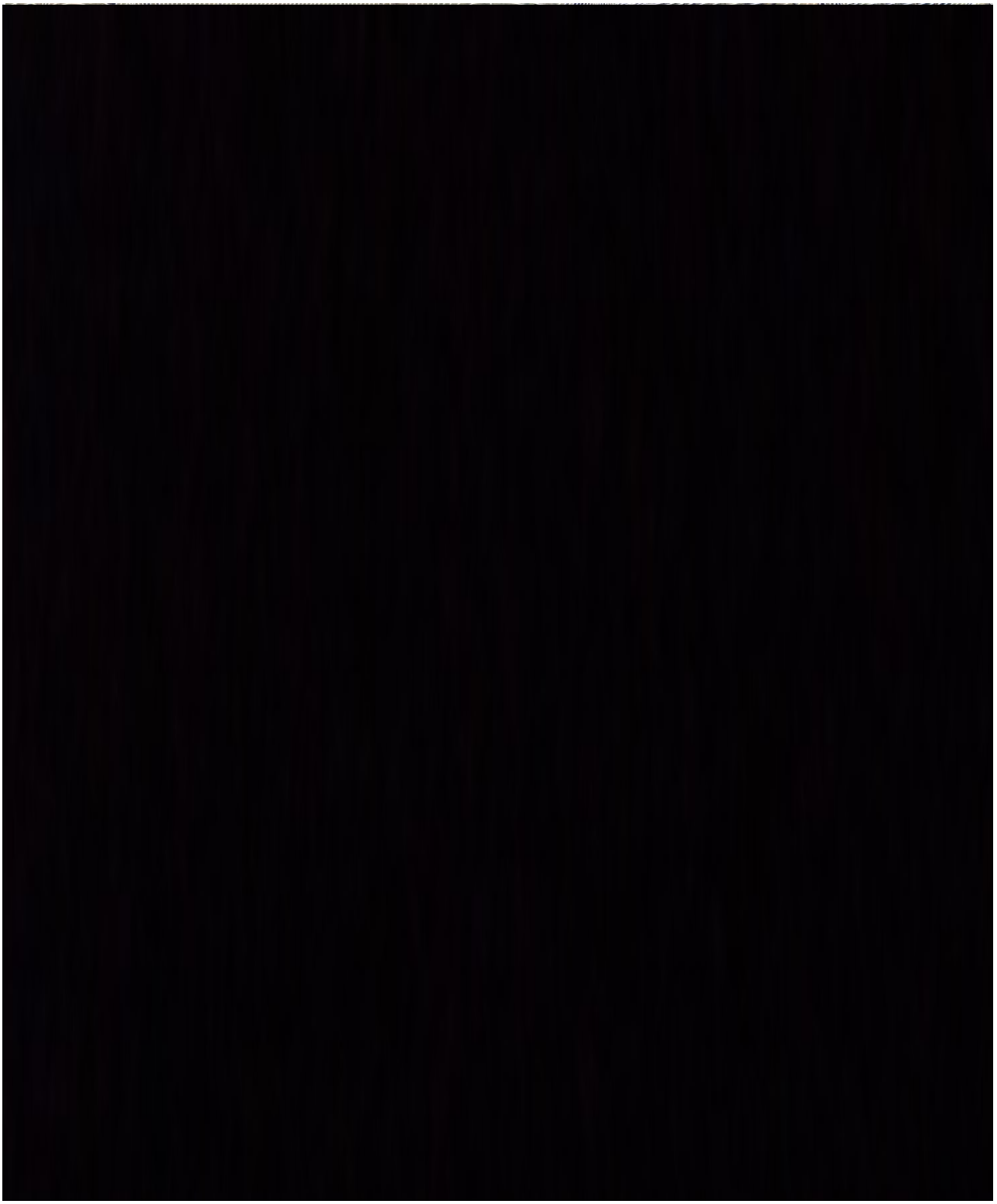
Aboriginal Site Location

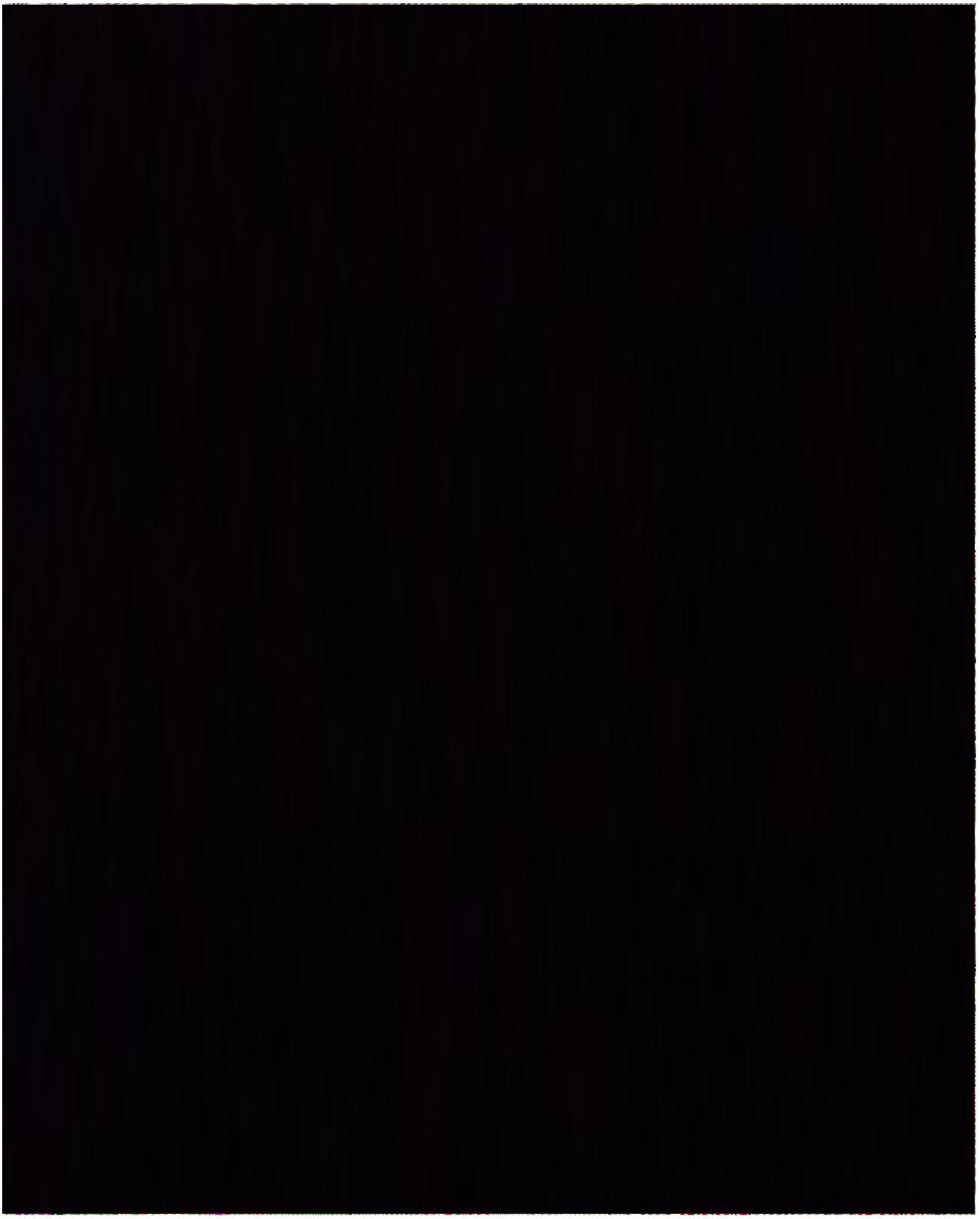


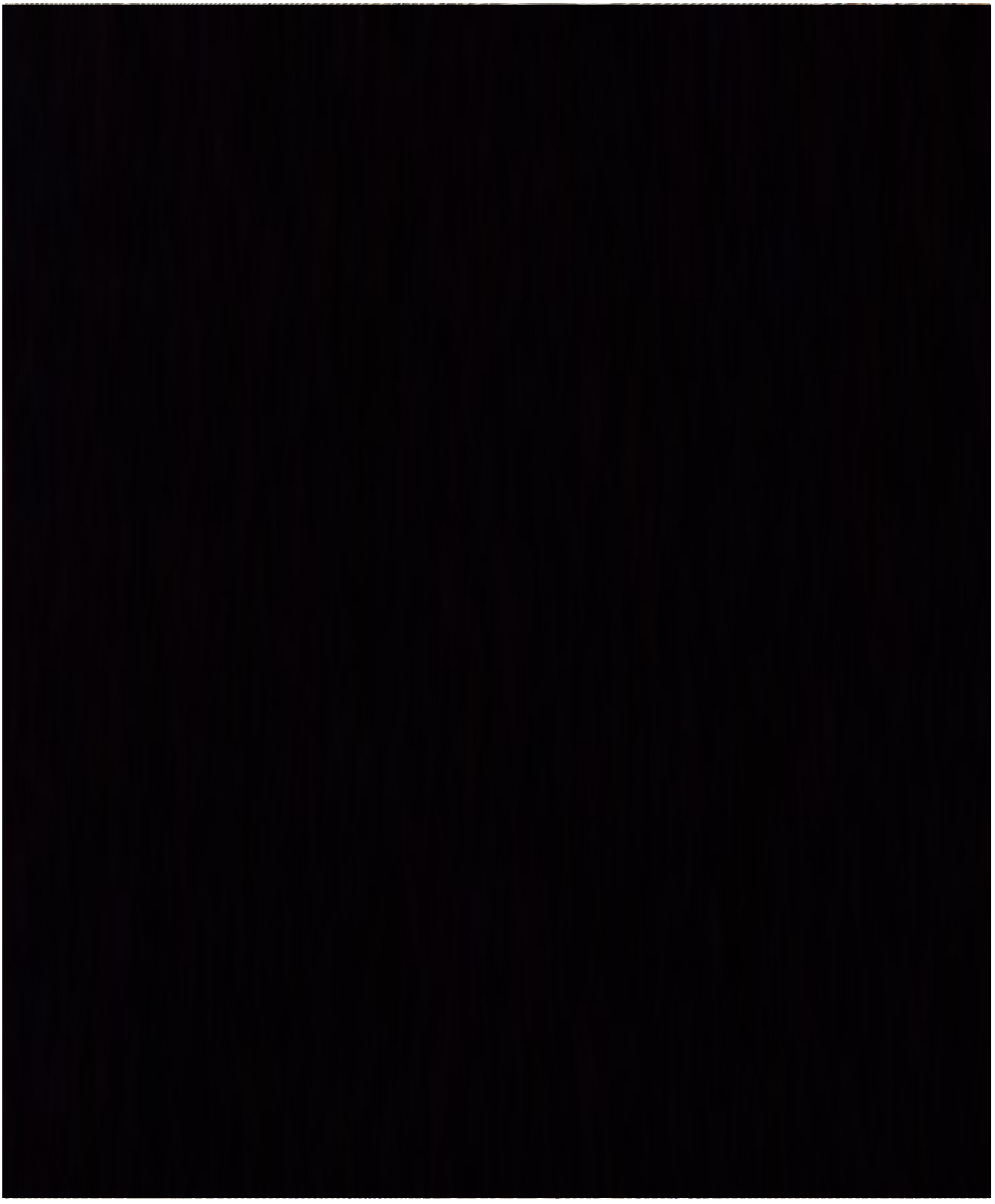
Spatial Extent of Open Artefact Site (only available for SSD Survey sites and a limited number of previously recorded open artefact sites for which relevant data has been reported)

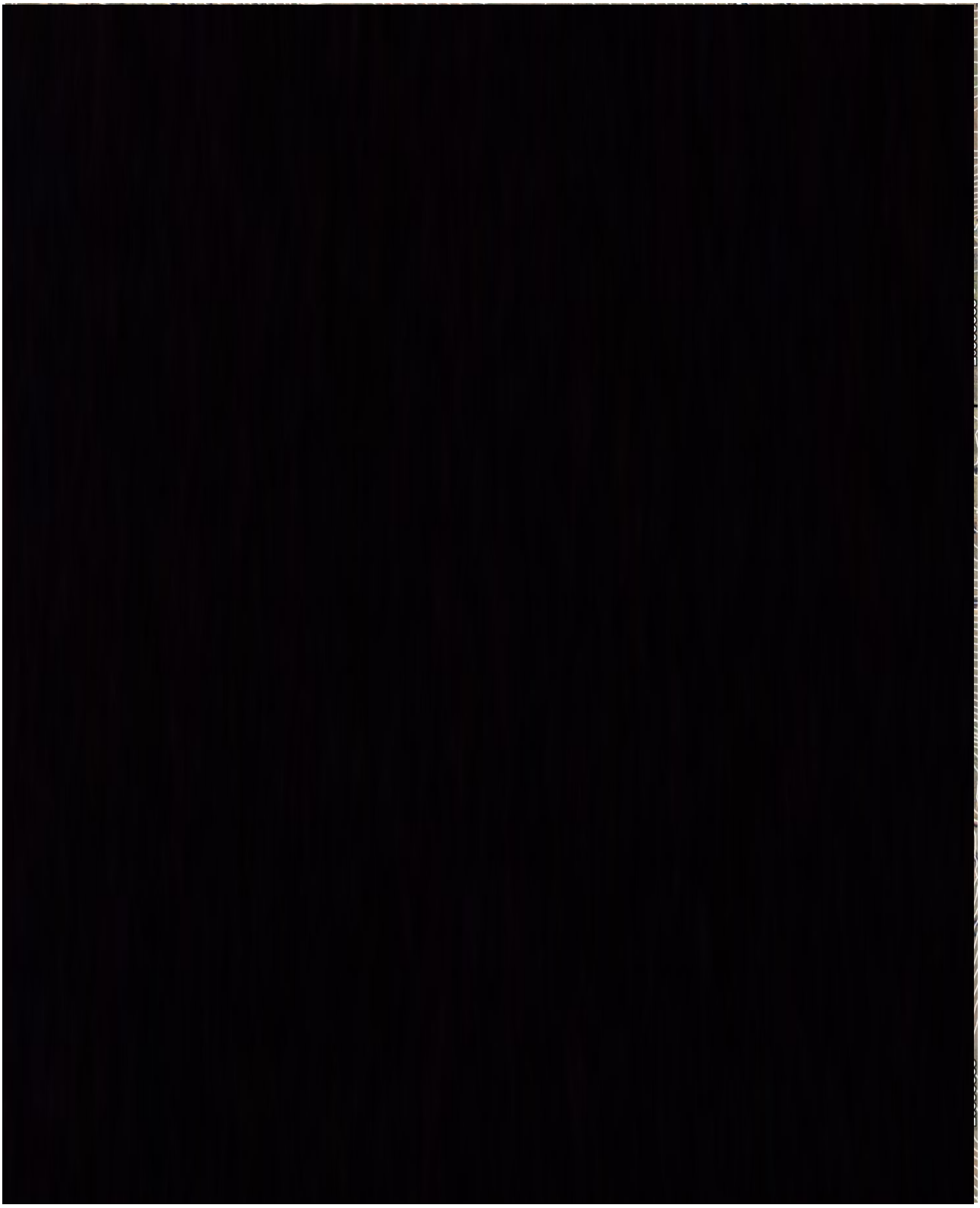
Mapping Layout (one kilometre MGA grid):











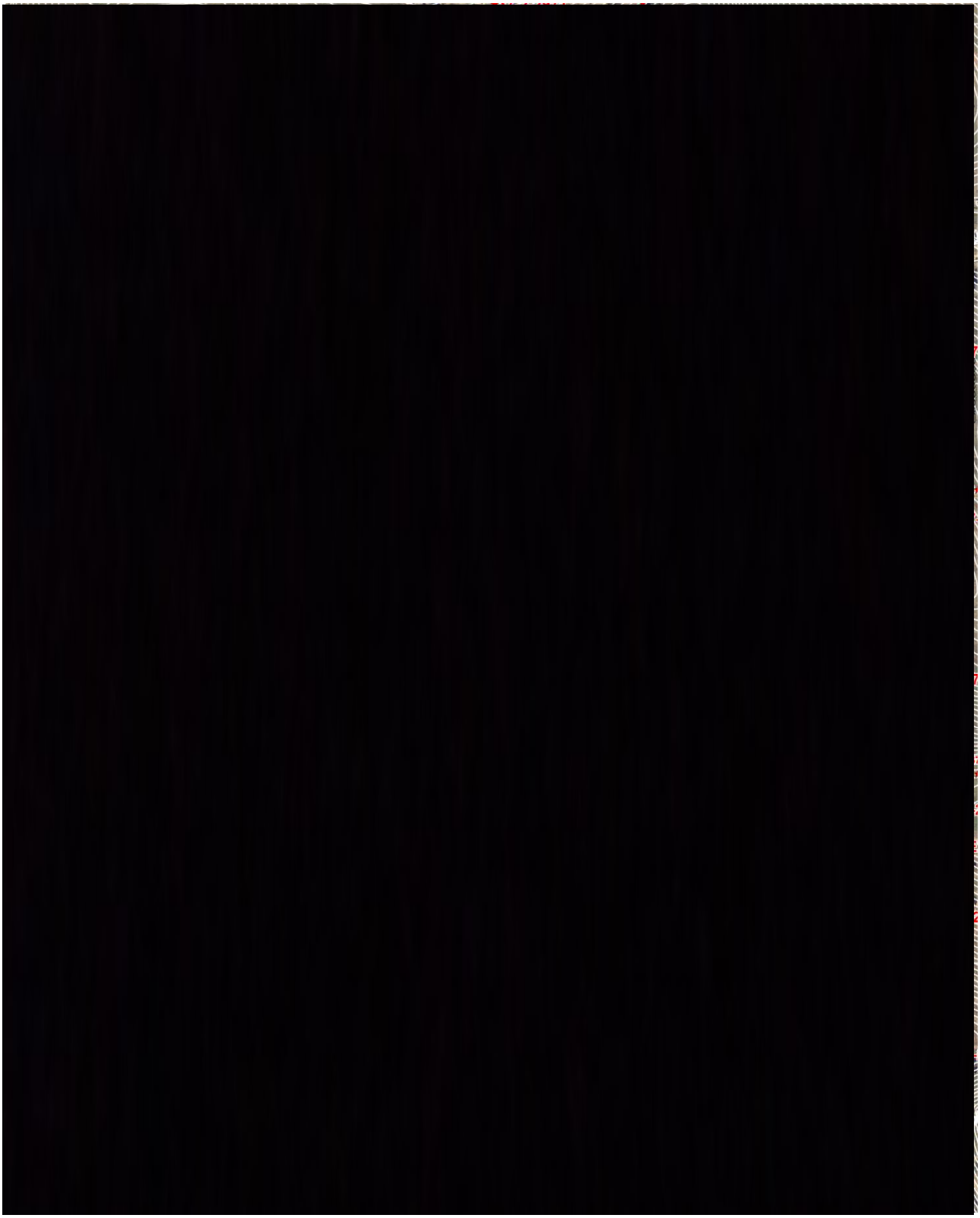


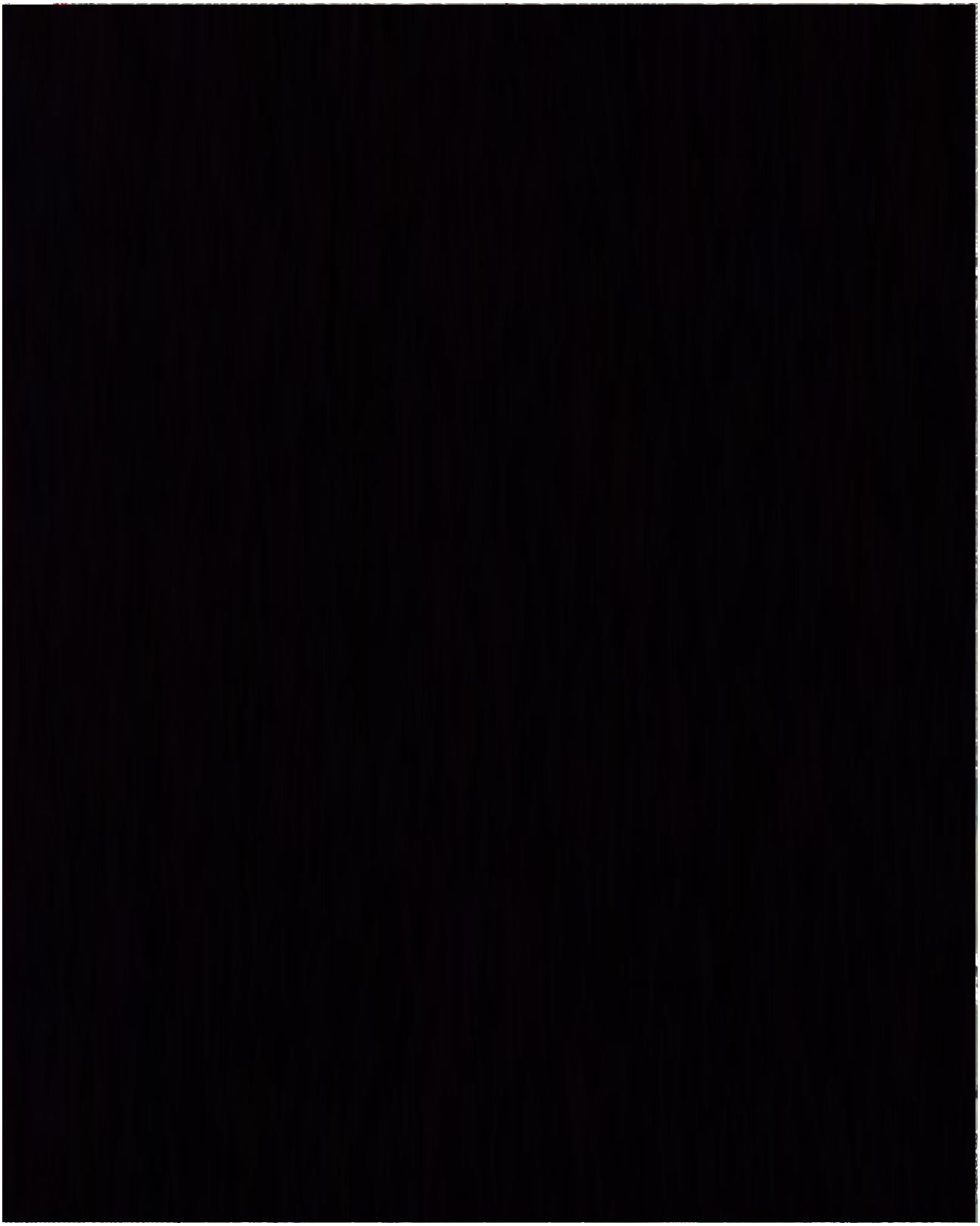




















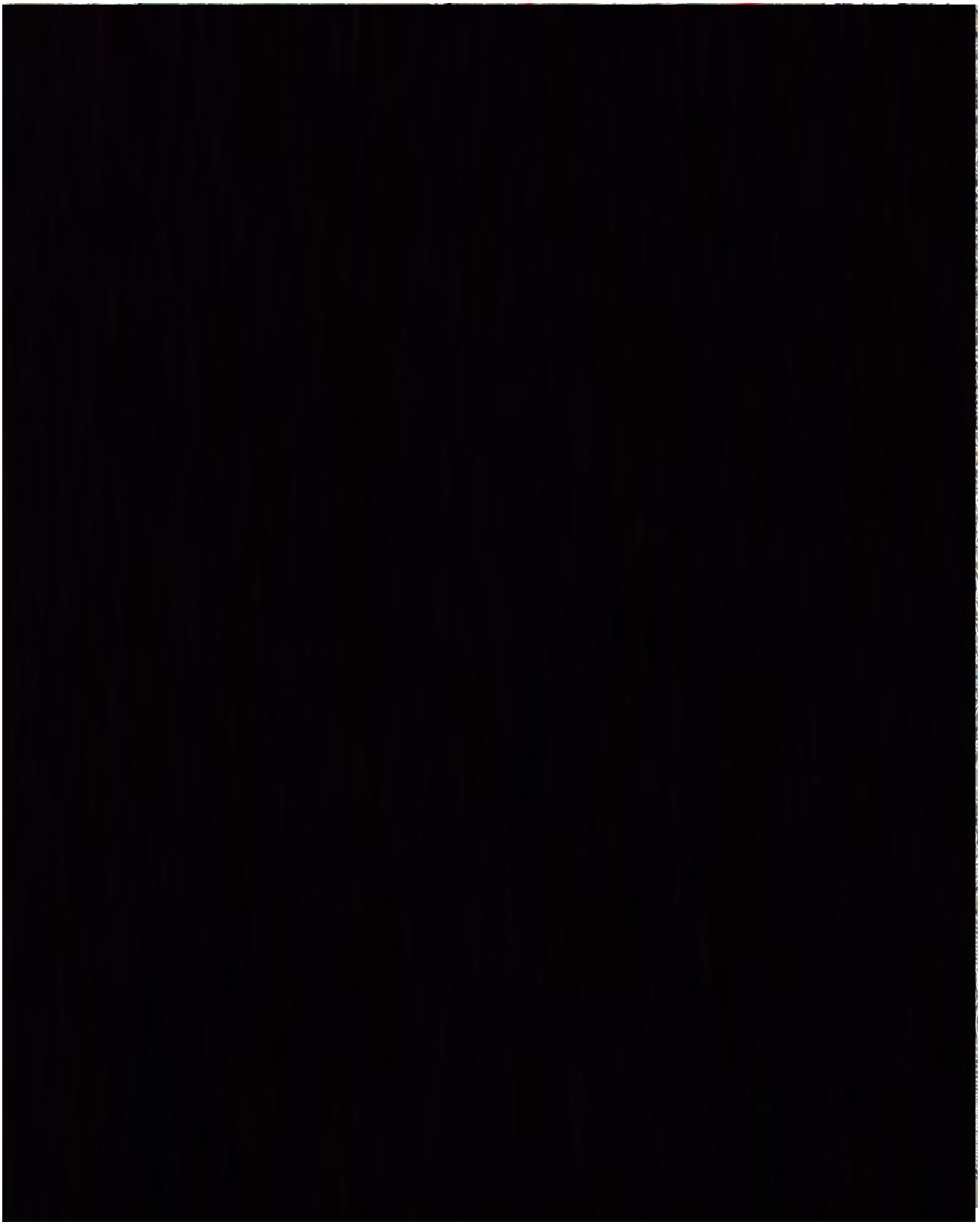


















APPENDIX 5.

ABORIGINAL HERITAGE SITE DATA[1]

[1] For new sites identified and recording during the MPO SSD Project survey and re-recording of one previously identified site.

SITE NAME: AHIMS #37-2-1447

Original Record:

[✓] New recording [ ] Additional Info

National Parks and Wildlife Service
Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 5/88

1:250,000 map sheet: SINGLETON NPWS Code BA

HEAD OFFICE USE
NPWS Site no: 37 37-2-1447

AMG Grid reference (Full reference - please include leading digits)
250K 297000 mE 25K
250K 6434500 mN 5/6 25K

Site types Open Camp Site.

Scale of map used for grid reference (Please use largest scale available) [✓] 25K, 50K (preferred) [ ] 100K [ ] 250K

Accessioned by: _____ Date: _____
Data entered by: _____ Date: _____

1:25K 50K, 100K map name: ABERDEEN 9033-I-S

~~Owner~~/Manager J. COCHRANE.
Address Dartbrook Coal Pty Ltd
Stair Street,
KAYUGA.

Site name KAYUGA (1996) 13/1 Locality/property name BELLAMBI.

NPWS District UPPER HUNTER Region: CENTRAL.

Reason for investigation
Arch. survey for proposed development - evaporation & transpiration system.

Portion no 13.
Parish ELLIS.

Photos taken? Yes.
How many attached? Refer Report.

How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff (Draw diagram on separate sheet.)
Proceed west from Kayuga along Dorset Road. Site north of fence just prior to 1st major bend in roadway.

Other sites in locality? Yes. Site Types include Open Artefact Scatters.
Are sites in NPWS Register? Yes - some. Scarred Trees.

Have artefacts been removed from site? NO When? N/A
By whom? N/A Deposited where? N/A

Is site important to local Aborigines? Some
Give contact(s) name(s) + address(es) Tracy Shane WTC Kent St. Singleton, 2330.
Wayne French. WLALC PO Box 127 Muswellbrook 2333

Contacted for this recording? In Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying report)
An Archaeological Survey of Portion 13, Kayuga, Upper Hunter Valley, N.S.W.
NPWS Report Catalogue #

Checklist: surface visibility, damage/disturbance/ threat to site
Condition of site Vis: Approx 25%
Threat to site: development, grazing, slope wash
Disturbance: Bootrenne (former rehabilitation area)

Recommendations for management & protection (attach separate sheet if necessary)
Consent to Destroy with Collection by Aboriginal Community

Site recorded by: JILL L. RUIG
Address/institution: 30 Simpson Terrace Singleton. 2330 Ph. (065) 72 4343
Date: 18/11/96.
Jill L. Ruig

SITE POSITION & ENVIRONMENT | **OFFICE USE ONLY: NPWS site no:**

1. Land form a. ~~beach/~~ hill slope / ~~edge top, etc~~ creek bank
b. site aspect: South c. slope: < 3°
d mark on diagram provided *or* on your own sketch the position of the site.
e. Describe briefly: Near creek on hillslopes.



f Local rock type: Late Permian sedimentary. g. Land use/effect: Unused

2. Distance from drinking water: < 10 m (closest pt.) Source: Unnamed Creek.

3 Resource Zone associated with site (estuarine, riverine, forest etc): Woodland open woodland none cleared.

4 Vegetation: Eucalyptus spp.

5. Edible plants noted: NIL.

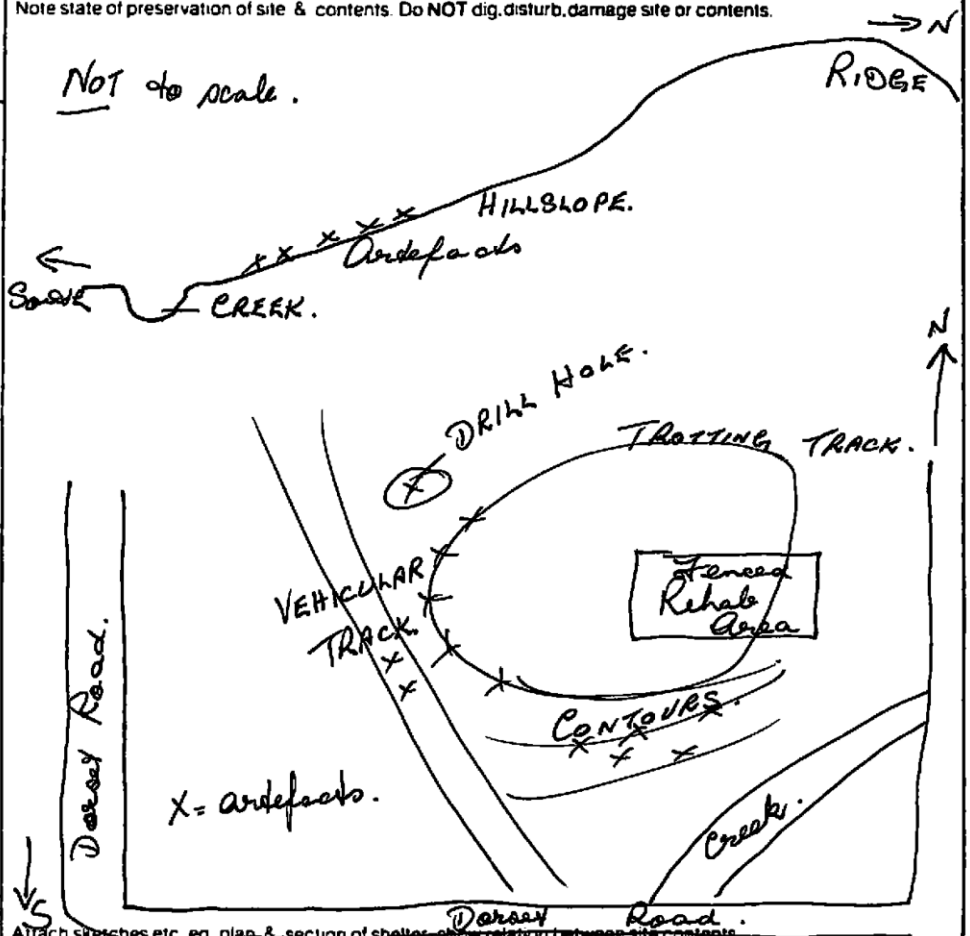
6 Faunal resources (include shellfish): Kangaroos.

7 Other exploitable resources (river pebbles, ochre, etc): Nil on portion 13 land ~~silcrete~~ ~~selected~~ ~~sorted~~ ~~on east~~.

Site type: OPEN ARTEFACT SCATTER.

CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.
DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.
ART area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.
BURIALS: number & condition of bone, position, age, sex, associated artefacts.
TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth
QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.
OTHER SITES EG: structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate

DESCRIPTION OF SITE & CONTENTS.
Note state of preservation of site & contents. Do **NOT** dig, disturb, damage site or contents.



Attach sketches etc eg. plan & section of shelter, show relation between site contents, indicate north, show scale.
Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

KAYUGA - NOVEMBER, 1996.

KAYUGA (1996) 13/1:

Art. No.	Art. Type	R. Material	L	W	Th	C'tex%	R/U	Termination	Plat. LxW	Facetting	O'hang R	Comments & Landform
1	Flake	silcrete	12	11	2			feather				On contour - B
2	Fl. P	silcrete	18	13	4							On contour - B
3	Fl. P	silcrete	12	11	4							On contour - B
4	Fl. P	silcrete	21	18	13							On pushed up soil mound - B
5	Fl. P	silcrete	8	6	3							On pushed up soil mound - B
6	Fl. P	silcrete	12	6	3							On pushed up soil mound - B
7	Fl. P	silcrete	8	4	4							On pushed up soil mound - B
8	Flake	silcrete	112	53	42	30%		step	focal 24x18			Recent edge damage - horses? - B
9	Core	silcrete	45	40	20							5 negative flake scars - almost exhausted-B
10	Flake	mudstone	28	17	3			step	focal 3x2		Yes	B
11	Core	silcrete	39	30	25							Exhausted - B
12	Fl. P	silcrete	32	15	12							Large (up to 8 mm) quartz inclusions - B
13	Fl. P	silcrete	35	22	11							On contour - B
14	Flake	silcrete	28	38	12			feather	focal 10x3			On contour - B
15	Flake	chert	14	19	8			feather	focal 3x2			On contour - B
16	Flake	silcrete	25	31	10			feather	focal 8x5			B
17	Flake	silcrete	50	37	14	15%		feather	focal 8x3			B
18	Br. Flake	silcrete	19	21	5			feather				Distal end - B
19	Br. Flake	silcrete	18	18	5			step				Distal end - On uphill side of contour - B
20	Flake	silcrete	74	50	30	5%			plain 20x20			On uphill side of contour - B
21	Flake	mudstone	45	30	11			feather	focal 5x5			Recent edge damage - horses? - B
22	Fl. P	silcrete	20	12	11							B
23	Fl. P	silcrete	16	11	3							On contour - B
24	Fl. P	silcrete	25	15	10							On contour - B
25	Flake	silcrete	22	10	4			hinge	focal 2x2			On contour - B
26	Fl. P	silcrete	20	20	12							On contour - B
27	Fl. P	silcrete	15	12	5							On contour - B
28	Flake	silcrete	49	30	16			feather	focal 10x4		Yes	On contour - B
29	Fl. P	silcrete	28	20	12							On contour - B
30	Fl. P	silcrete	20	18	12				.			On contour - B
31	Flake	silcrete	40	33	12			hinge	focal 4x2			Large (up to 15mm) inclusions - B

TOC

32	Fl. P	igneous	38	35	12	5%						On vehicular track - B
33	Flake	silcrete	40	24	10			feather	focal 5x3			On vehicular track - B
34	Fl. P	silcrete	35	25	13	10%						On vehicular track - B
35	Fl. P	silcrete	55	43	28	20%						On vehicular track - B
36	Geometric	silcrete	20	15	4		Yes	hinge	broken			In southern fenced rehabilitation area - B
37	Flake	silcrete	40	15	4			step	focal 4x2			In southern fenced rehabilitation area - B
38	Flake	silcrete	28	20	4			feather	focal 5x2			In southern fenced rehabilitation area - B
39	Flake	silcrete	32	20	5			feather	focal 5x3		yes	In southern fenced rehabilitation area - B
40	Br. Fl	silcrete	9	10	3							Distal end - in south fenced rehab area - B
41	Core	silcrete	28	26	22	15%		5 negative flake scars - exhausted				In southern fenced rehabilitation area - B
42	Fl. P	silcrete	50	40	30	10%		Large (up to 10mm) quartz inclusions				In southern fenced rehabilitation area - B
43	Flake	silcrete	30	37	6	5%		feather	focal 12x4			In southern fenced rehabilitation area - B
44	Fl. P	silcrete	33	24	14	5%						Drill Hole - upslope near vehicular track - B
45	Flake	silcrete	20	23	10			step	focal 10x4			In southern fenced rehabilitation area - B
46	Fl. P	silcrete	18	14	4							Disturbed area near pump - C
47	Fl. P	silcrete	6	5	3							Disturbed area near pump - C
48	Fl. P	silcrete	75	26	22							Distrubed area near pump - C
49	Flake	silcrete	40	27	12			step	focal 12x8			Disturbed area near pump - C
50	Flake	silcrete	28	22	8			step	focal			Disturbed area near pump - C
51	Fl. P	silcrete	28	16	12							Disturbed area near pump - C
52	Fl. P	silcrete	15	10	5							Disturbed area near pump - C
53	Core	silcrete	105	78	40	<5%						10 negative flake scars, rotated - on fence-C
54	Flake	silcrete	28	24	4			hinge	focal 5x2			Disturbed area near pump - C
55	Fl. P	silcrete	25	25	7							Disturbed area near pump - C
56	Fl. P	silcrete	48	30	12							Disturbed area near pump - C
57	Flake	silcrete	30	22	5			step	plain 10x4			Disturbed area near pump - C
58	Fl. P	silcrete	21	19	6							Disturbed area near pump - C
59	Fl. P	silcrete	30	20	13							Disturbed area near pump - C
60	Fl. P	silcrete	11	8	4							Disturbed area near pump - C
61	Flake	silcrete	15	21	4			step	focal 6x3			Disturbed area near pump - C
62	Fl. P	silcrete	40	14	2							Disturbed area near pump - C
63	Flake	silcrete	27	18	4			feather	focal 1x1			Disturbed area near pump - C
64	Fl. P	silcrete	12	10	7							Disturbed area near pump - C
65	Flake	silcrete	34	18	7			outrepasse	focal 1x1			Disturbed area near pump - C
66	Flake	silcrete	19	17	4			step	focal 5x1			Disturbed area near pump - C

TOC

Site #37-2-1447 - Additional Information Recorded During MPO SSD Survey[2]:

Site Type: *Artefact Scatter*
Date Re-recorded: *13/11/2019*
Recorder: *Peter Kuskie*

Landform Element: *Drainage depression* Vegetation: *Cleared/grass*
Slope: *Level-very gentle* Ground Disturbance: *Moderate*
Distance to Water: *<50m*

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	160	60	9600	30%	30%	2880	20	0.007	probable

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	cream/red	silcrete	flake - medial	20 x 17 x 4			
2	cream	silcrete	flake - distal	24 x 10 x 4			
3	cream	silcrete	flake	45 x 50 x 16			
4	cream/grey	petrified wood	flake	43 x 21 x 11			chunky; near trough; 20% terrestrial cortex
5	cream	silcrete	flake	14 x 10 x 2			near trough
6	brown	chert	flake	8 x 8 x 1			near trough
7	grey	silcrete	flake	8 x 11 x 2			near trough
8	grey	silcrete	flake	44 x 26 x 7			near trough, distal snap; numerous clasts
9	grey	breccia	flake - proximal	31 x 30 x 7			near trough; 5% waterworn cortex
10	grey	silcrete	core fragment	47 x 25 x 13			near trough
11	grey	silcrete	retouched flake	70 x 40 x 20			near trough; retouch 40mm lateral margin
12	grey	silcrete	flake - distal	45 x 25 x 10			breccia like material
13	grey	silcrete	flake	16 x 8 x 2			near concrete underground tank, erosion scour
14	cream/pink	tuff	bondi point - utilised	21 x 7 x 4			probable edge damage on chord, tip snapped
15	cream	silcrete	flake	28 x 22 x 7			in eroded/disturbed area
16	grey	silcrete	flake	54 x 32 x 14			in eroded/disturbed area; numerous large inclusions
17	grey	silcrete	core	40 x 36 x 14			7 scars, 2 platforms; next to ants nest
18	brown	tuff	core	30 x 21 x 13			2+ scars, 1+ platform; next to ants nest; 20% waterworn cortex
19	grey	silcrete	flake	19 x 14 x 2			next to ants nest; 5% terrestrial cortex
20	brown	quartzite	hammerstone	110 x 80 x 60			pitting both ends; 95% waterworn cortex

[2] Only relevant to portion of site within MPO SSD survey area – other portions of the site outside of the survey area were not reinspected or re-recorded.

Additional Comments:

- Site #37-2-1447 was originally recorded in 1996 by Jill Ruig as 'Kayuga 1996 13/1' with a grid reference of MGA[redacted]
- Original recording was over a much broader area (approximately 170 x 140 metres), with 66 artefacts recorded;
- This inspection and re-recording was confined to SSD Zones B3 and B4, a 160 x 60 metre area;
- The site extends across the drainage depression and associated flats and basal slope;
- Vegetated by grass and thistles;
- Moderate disturbance from vegetation removal, erosion, pastoral use, contour drain, trough, tanks and ants nests;
- High potential for sub-surface deposit, possibly moderate research potential;
- Rich's (1995) site #37-2-1488 is actually situated south of Dorset Road, not in the location of the reported site grid reference

Site Location: #37-2-1447 (100 metre MGA grid, one metre contours, with artefact numbers shown)



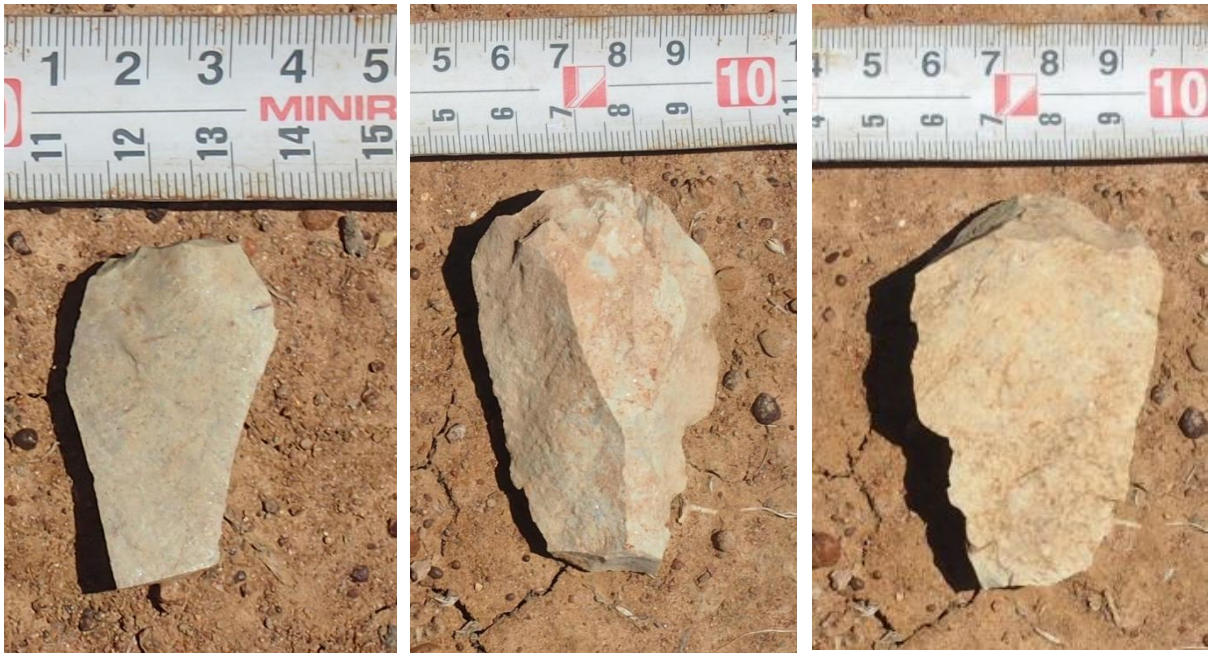
Photograph: #37-2-1447 during re-recording of portion in November 2019 – view south of eastern portion of site.



Photograph: #37-2-1447 during re-recording of portion in November 2019 – view south of location of artefacts #17-20.



Photograph: #37-2-1447 artefacts #8 (silcrete flake – left) and #11 (silcrete retouched flake: centre - dorsal view and right - ventral view).



Photograph: #37-2-1447 artefact #20 (quartzite hammerstone).



SITE NAME: MTP-1741 (AHIMS #37-2-5944)

Site Type:	*Isolated Artefact*	MGA Grid Reference:	[redacted]
Date Recorded:	*13/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Peter Kuskie*		
Landform Element:	*Simple slope*	Vegetation:	*Cleared/grass*
Slope:	*Gentle*	Ground Disturbance:	*Moderate-high*
Distance to Water:	*<50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	1	1	1	90%	90%	0.9	1	1.111	possible

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	brown	tuff	flake - distal	14 x 13 x 5	[redacted]		0.5 metres north of fence bordering Dorset Road's northern side

Additional Comments:

- Site located immediately north of fence bordering Dorset Road's northern side;
- Small area of basal slope near watercourse;
- Almost moderate slope;
- Moderate-high disturbance from adjacent Dorset Road reserve, fence, vegetation removal, pastoral use and erosion;
- Low potential.

Site Location: MTP-1741 (100 metre MGA grid, one metre contours)



Photograph: MTP-1741



SITE NAME: MTP-1742 (AHIMS #37-2-5945)

Site Type:	*Isolated Artefact*	MGA Grid Reference:	[redacted]
Date Recorded:	*13/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Corey O'Driscoll*		
Landform Element:	*Simple slope*	Vegetation:	*Cleared/grass*
Slope:	*Moderate*	Ground Disturbance:	*Moderate*
Distance to Water:	*>50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	1	1	1	80%	80%	0.8	1	1.25	unlikely

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	brown/black	acidic volcanic	flake	67 x 50 x 13	[redacted]		brown patination with fresh edge damage on lateral and distal margins revealing black interior; 30% waterworn cortex

Additional Comments:

- Site located 40 metres north of Dorset Road, north-east of sharp bend, near regrowth trees;
- Moderate disturbance from vegetation removal, pastoral use and erosion;
- Low potential.

Site Location: MTP-1742 (100 metre MGA grid, one metre contours)



Photograph: MTP-1742 view south towards Dorset Road (inset – artefact #1)



SITE NAME: MTP-1743 (AHIMS #37-2-5946)

Site Type:	*Isolated Artefact*	MGA Grid Reference:	[redacted]
Date Recorded:	*14/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Peter Kuskie*		
Landform Element:	*Simple slope*	Vegetation:	*Cleared/grass*
Slope:	*Moderate*	Ground Disturbance:	*Moderate*
Distance to Water:	*>50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	1	1	1	50%	50%	0.5	1	2	unlikely

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	grey	silcrete	core	114 x 106 x 70	[redacted]		1 prominent scar, 1 platform; indicative of nearby silcrete source; 20% terrestrial cortex

Additional Comments:

- Site located immediately north of road reserve fence, 35 metres south-east of isolated trees;
- Thin A unit soil over clay;
- Moderate disturbance from vegetation removal, erosion, pastoral use and adjacent fence;
- Grass;
- Artefact indicates primary silcrete source nearby;
- Low potential.

Site Location: MTP-1743 (100 metre MGA grid, one metre contours)



Photograph: MTP-1743 view south-west



Photograph: MTP-1743 artefact #1 (silcrete core)





SITE NAME: MTP-1744 (AHIMS #37-2-5947)

Site Type:	*Isolated Artefact*	MGA Grid Reference:	[redacted]
Date Recorded:	*14/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Peter Kuskie*		
Landform Element:	*Simple slope*	Vegetation:	*Cleared/grass*
Slope:	*Moderate*	Ground Disturbance:	*Moderate*
Distance to Water:	*<50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	1	1	1	20%	20%	0.2	1	5	unlikely

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	grey/pink	tuff	flake - distal	20 x 14 x 4	[redacted]		

Additional Comments:

- Site located six metres north of fence of road reserve;
- Shallow A unit soil;
- Grass;
- Moderate disturbance from vegetation removal, erosion and pastoral use;
- Low potential.

Site Location: MTP-1744 (100 metre MGA grid, one metre contours)



Photograph: MTP-1744 view east



SITE NAME: MTP-1745 (AHIMS #37-2-5948)

Site Type:	*Isolated Artefact*	MGA Grid Reference:	[redacted]
Date Recorded:	*14/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Peter Kuskie*		
Landform Element:	*Drainage depression*	Vegetation:	*Cleared/grass*
Slope:	*Gentle*	Ground Disturbance:	*Moderate*
Distance to Water:	*<50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	1	1	1	50%	50%	0.5	1	2	possible

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	dark grey	acidic volcanic	core	120 x 100 x 25	[redacted]		polish both flat surfaces but likely natural patina; lenticular; 2 margins curved and not modified; 2 margins straight, flaked; 6 scars on 1 margin; 4 scars on other margin; unidirectional

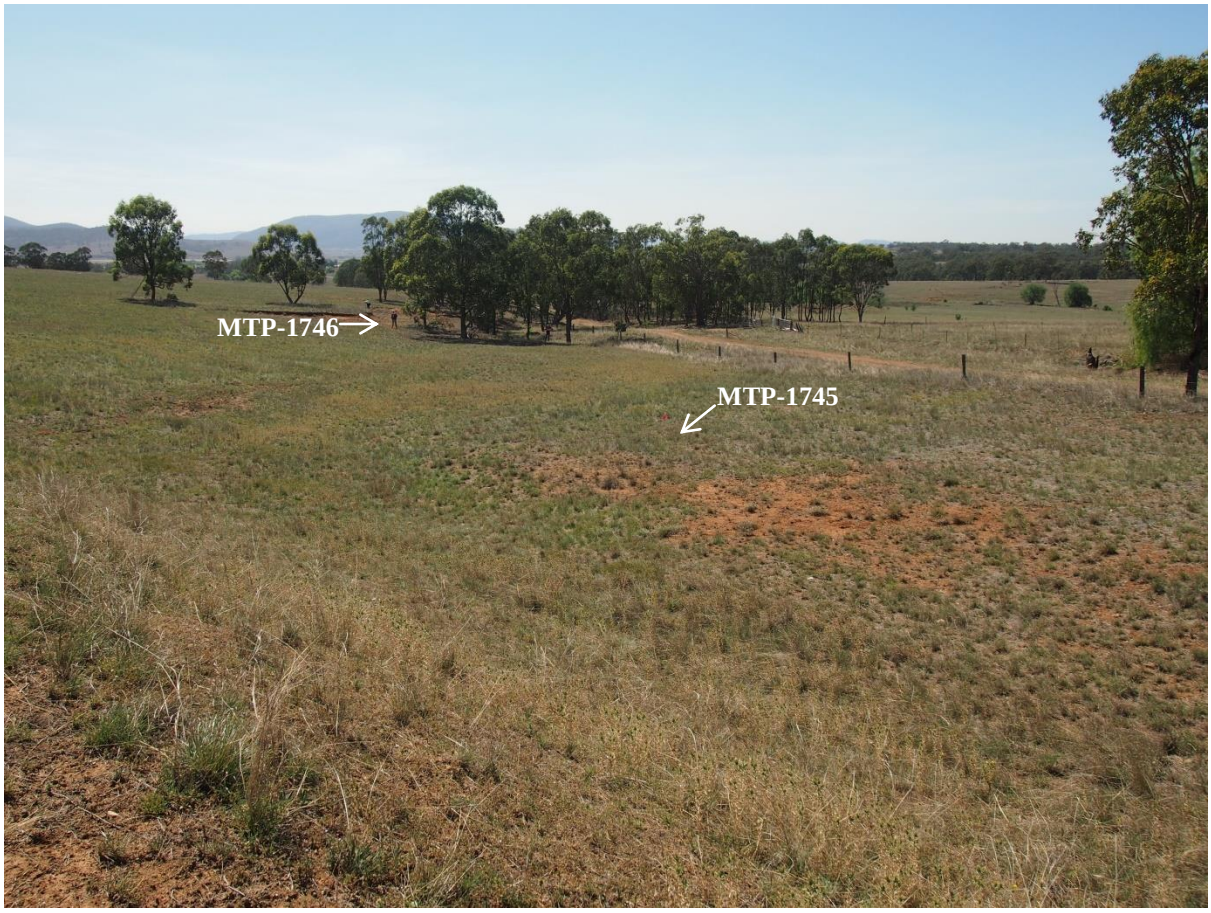
Additional Comments:

- Site located 17 metres north of fence of road reserve, immediately south-east of dam and south of drainage;
- Grass;
- Moderate disturbance from vegetation removal, erosion and pastoral use;
- Low potential.

Site Location: MTP-1745 (100 metre MGA grid, one metre contours)



Photograph: MTP-1745 view south-east



Photograph: MTP-1745 artefact #1 (acidic volcanic core)



SITE NAME: MTP-1746 (AHIMS #37-2-5949)

Site Type:	*Artefact Scatter*	MGA Grid Reference:	[redacted]
Date Recorded:	*14/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Peter Kuskie*		
Landform Element:	*Drainage depression*	Vegetation:	*Grass, regrowth*
Slope:	*Gentle*	Ground Disturbance:	*Moderate*
Distance to Water:	*<50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	90	20	1800	50%	50%	900	6	0.007	possible

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	cream	chert	flake - distal	10 x 10 x 2	[redacted]		edge of drainage bank; 5 metres north of road reserve fence
2	grey	silcrete	core fragment	45 x 25 x 20			edge of drainage bank; 5 metres north of road reserve fence; large clasts
3	cream	silcrete	flake	21 x 14 x 4			erosion scour 20 metres north of #1 and 2; large clasts
4	grey	silcrete	flake	30 x 17 x 6			
5	brown/pink	tuff	flake	19 x 9 x 4			43 metres north of #4; elongated; 20% tabular cortex
6	grey	silcrete	lithic fragment	25 x 16 x 10			2 metres north of road reserve fence; erosion scour

Additional Comments:

- Site located immediately north of road reserve in erosion scours among regrowth trees;
- Grass;
- Minimal A unit soil;
- Very low density;
- Large grey/orange silcrete cobble 300 x 200 x 180 millimetres present indicating material source but no clear evidence of platform or flake removals;
- Moderate disturbance from vegetation removal, erosion and pastoral use;
- Relatively low potential.

Site Location: MTP-1746 (100 metre MGA grid, one metre contours, with artefact numbers shown)



Photograph: MTP-1746



SITE NAME: MTP-1747 (AHIMS #37-2-5950)

Site Type:	*Isolated Artefact*	MGA Grid Reference:	[redacted]
Date Recorded:	*14/11/2019*	Topographic Map:	*Aberdeen 9033-1S*
Recorder:	*Peter Kuskie*		
Landform Element:	*Simple slope*	Vegetation:	*Cleared/grass*
Slope:	*Moderate*	Ground Disturbance:	*Moderate*
Distance to Water:	*>50 metres*		

Visible Extent of Surface Exposures: Length (m)	Visible Extent of Surface Exposures: Width (m)	Visible Extent of Evidence: Length (m)	Visible Extent of Evidence: Width (m)	Visible Locus Area (m^2)	Mean Surface Visibility of Locus (%)	Mean Arch. Visibility of Locus (%)	Effective Locus Area (m^2)	# of Artefacts	# of Artefacts per m^2 of Effective Locus Area	Sub-Surface Deposit
varies	varies	1	1	1	50%	50%	0.5	1	2	unlikely

Artefact Database:

Artefact #	Colour	Stone Material	Lithic Item Type	Dimensions (mm)	MGA Easting	MGA Northing	Comments
1	dark grey	acidic volcanic	flake - distal	30 x 24 x 6	[redacted]		cream band running through

Additional Comments:

- Site located immediately north of fence bordering road off Dorset Road;
- Grass;
- Moderate disturbance from vegetation removal, erosion and pastoral use;
- Low potential.

Site Location: MTP-1747 (100 metre MGA grid, one metre contours)



Photograph: MTP-1747 view south-east



APPENDIX 6.

ABORIGINAL COMMUNITY CONSULTATION

Heritage NSW (Former OEH / BCD) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* - Mount Pleasant Optimisation Project – *Consultation Database:*[1]

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
4/05/2017		Step 1 Organisations (Wanaruah LALC, OEH, Muswellbrook Shire Council, Hunter Local Land Services, NTSCORP, National Native Title Tribunal, Office of the Registrar)	Post	Chris Lauritzen	MACH	Step 1 letters sent out to relevant organisation requesting details of Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest for the Mount Pleasant Operation.
9/05/2017		MACH	Email	Ross Pahuru	Hunter Valley Aboriginal Corporation	Response to Step 1 letter received.
9/05/2017		MACH	Email	Tracey Skene	Culturally Aware	Response to Step 1 letter received.
10/05/2017		MACH	Email	Renee MacDonald	Wanaruah LALC	Response to Step 1 letter received.
11/05/2017		MACH	Email	Naomi Golightly	OEH	Response to Step 1 letter received.
16/05/2017		MACH	Email	Kathie Steward Kinchela	Yinarr Cultural Services	Response to Step 1 letter received.
24/05/2017		MACH	Email	Kim Manwarring	Muswellbrook Shire Council	Response to Step 1 letter received.
26/05/2017		MACH	Email	Bianca Ceissman	Office of the Registrar	Response to Step 1 letter received.
29/05/2017		Existing Registered Aboriginal Parties for the Mount Pleasant Operation	Post	Chris Lauritzen	MACH	Letters sent out to existing RAPs at the Mount Pleasant Operation to advise them of the registration process and to notify them that they have been automatically registered as Registered Aboriginal Parties.
29/05/2017		Aboriginal stakeholders identified by relevant government organisations	Post	Chris Lauritzen	MACH	Step 2 letters sent out to groups/individual identified during Step 1 (who are not already automatically registered for the Project), inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.
31/05/2017		General public	Public Notice		MACH	A public notice was published in the Koori Mail on 31 May 2017, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.

[1] Entries for 2017 courtesy Resource Strategies.

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
31/05/2017		General public	Public Notice		MACH	A public notice was published in the Singleton Argus on 31 May 2017, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.
1/06/2017		MACH	Email	Kristen Kerr	Warrabinga NTCAC	Provided registration of interest.
1/06/2017		MACH	Email		Amanda Howard	Confirmed receipt of Step 2 correspondence.
2/06/2017		General public	Public Notice		MACH	A public notice was published in the Muswellbrook Chronicle on 2 June 2017, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.
5/06/2017		MACH	Email	Des Hickey	Hunter Valley Cultural Surveying	Provided registration of interest for Hunter Valley Cultural Surveying and Valley ELM Corp.
27/06/2017		MACH	Email	Amanda Howard		Provided a registration of interest.
5/07/2017		MACH	Email	Carolyn Hickey	A1 Indigenous Cultural Services	Provided a registration of interest.
6/07/2017		OEH and Wanaruah LALC	Post		MACH	Provided correspondence to OEH and Wanaruah LALC providing copies of registration materials and a list of the Registered Aboriginal Parties.
10/10/2019		All Registered Aboriginal Parties	Email/Post	Chris Lauritzen	MACH	Provision of the Proposed SSD ACHA Methodology for provision of comments and invitation to Information Session
10/10/2019		MACH	Phone	Scott Franks		Request for further information on the process of the field surveys
10/10/2019		MACH	Email		Hunter Valley Aboriginal Corporation	Confirmed attendance at information session of Rhonda Griffith from Hunter Valley Aboriginal Corporation
10/10/2019		MACH	Email		Ungooroo Aboriginal Corporation	Confirmed attendance at information session of Allen Paget from Ungooroo Aboriginal Corporation
10/10/2019		MACH	Email	Laurie Perry		Confirmed receipt of the Proposed ACHA Methodology.
5/11/2019	Rhonda Griffiths, Alan Paget	Hunter Valley Aboriginal Corporation, Ungooroo Aboriginal Corporation, (All RAPs invited).	Meeting	Chloe Annandale, Polina Goldberg, Peter Kuskie	MACH, Resource Strategies, South East Archaeology	Information Session held at MPO office. Chloe Annandale presented update of MPO operations and SSD Project. Peter Kuskie presented SSD Project methodology and answered any queries. Rhonda Griffiths discussed desire for Keeping Place.
13/11/2019	David Horton, Leanne Kirkman	Gomery Cultural Consultants, Hunter Valley Aboriginal Corporation.	Fieldwork	Chloe Annandale, Chris Gilmore, Peter Kuskie, Corey O'Driscoll	MACH, South East Archaeology	Field survey of Zones B3 and B4 of SSD Area and inspection of samples of other Zones in SSD Area.

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
14/11/2019	David Horton, Leanne Kirkman	Gomery Cultural Consultants, Hunter Valley Aboriginal Corporation.	Fieldwork	Chris Gilmore, Peter Kuskie, Corey O'Driscoll	MACH, South East Archaeology	Field survey of Zones B3 and B4 of SSD Area and inspection of samples of other Zones in SSD Area.
19/8/2020	All RAPs	All RAPs	Email, Letter	Chloe Annandale, Chris Lauritzen	MACH	Provided draft ACHA report for review with a request for comments by 23/9/2020 and invitation to attend online information session to discuss project and draft ACHA on 2/9/2020.
20/8/2020	Chloe Annandale	MACH	Email	Laurie Perry	Wonnarua Nation	Acknowledged receipt of draft ACHA.
21/8/2020	Chloe Annandale	MACH	Email	Kylie Pascoe	Hunter Valley Aboriginal Corporation	Acknowledged receipt of draft ACHA and requested meeting link which was subsequently provided by MACH.
23/8/2020	Chloe Annandale	MACH	Email	Carolyn Hickey	A1 Indigenous Services	Responded to draft ACHA in support and requested involvement in future meetings and fieldwork. Link to attend meeting subsequently provided by MACH on 28/8/20.
2/9/2020	Kylie Pascoe	Hunter Valley Aboriginal Corporation	Online meeting / information session	Chris Lauritzen, Chloe Annandale, Chris Masters, Ngaire Baker, Andrew Kelly; Stirling Bartlam, Polina Goldberg; Peter Kuskie	MACH; Resource Strategies; South East Archaeology	Online information session to discuss project and draft ACHA. No issues raised about draft ACHA.
07/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	Stephen Talbott	Gomeroi Namoi Traditional Owners	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	Barry Anderson	Lower Wonnarua Tribal Consultancy PTY LTD	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	Tracey Skene	Culturally Aware	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
14/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone & email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.
17/9/2020	All RAPs	All RAPs	Email	Chloe Annandale	MACH	Reminder to provide comments on the draft ACHA by 23/9/2020.
18/9/2020	Chloe Annandale	MACH	Email	Laurie Perry	Wonnarua Nation	Acknowledged receipt of email reminder about due date for comments on draft ACHA.
18/9/2020	Chloe Annandale	MACH	Email	Steven Hickey	Widescope Group	Responded to draft ACHA in support of recommendations.
18/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Confirmation of interview participation.
18/09/2020	Tracey Skene	Culturally Aware	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
18/09/2020	Rhonda Griffiths	Hunter Valley Aboriginal Corporation	Telephone & email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.
18/09/2020	John and Margaret Matthews	Aboriginal Native Title Consultants	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left [with Michele] about additional assessment with my contact details.
18/09/2020	Anne Hickey	Gidawaa Walang CHC	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Barry Anderson	Lower Wonnarua Tribal Consultancy PTY LTD	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Aliera French	Aliera French Trading	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Conformation of interview.
18/09/2020	Stephen Talbott	Gomeroi Namoi Traditional Owners	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.
18/09/2020	David Horton	Gomery Cultural Consultants	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Undertook brief interview.
18/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Undertook interview.
18/09/2020	Rhoda Perry	Upper Hunter Wonnarua Council Incorporated	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Undertook brief interview.
18/09/2020	Maree Waugh	Wallangan Cultural Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Suzie Worth	Wanaruah LALC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details; followed by provision of information via email for consideration / informed consent
18/09/2020	Anne Hickey	Gidawaa Walang Cultural Heritage Consultancy	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Paulette Ryan	HTO Environmental Management Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Jenny-Lee Chambers	JLC Cultural Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Susan Cutmore	Moreeites	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Scott Franks	Tocomwall PTY LTD	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.
19/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Interview phone call. No answer. Message left.
19/09/2020	Allen Paget	Ungooroo Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
19/09/2020	Rhonda Ward	Ungooroo Cultural and Community Services Inc.	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Set interview time.
19/09/2020	Des Hickey	Wattaka Wonnarua Cultural Consultants Service	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing and discussion on additional assessment via telephone.

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
19/09/2020	Arthur Fletcher	Wonnarua Elders Council Inc.	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
19/09/2020	Kathleen Steward-Kinchela	Yinarr Cultural Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
19/09/2020	Kylie Pascoe	HVAC	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
21/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Undertook interview.
21/09/2020	Tracey Skene	Culturally Aware	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration. Arranged interview time.
21/09/2020	Rhonda Ward	Ungooroo Cultural and Community Services Inc.	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Interview phone call. No answer. Message left.
21/09/2020	Stephen Talbott	Gomeroi Namoi Traditional Owners	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Follow up phone call. Message left.
21/09/2020	Kylie Pascoe	HVAC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration.
21/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Reviewed interview.
22/09/2020	Rhoda Perry	Upper Hunter Wonnarua Council Incorporated	Email	Susan Dale Donaldson	Environmental and Cultural Services	Reviewed interview.
23/09/2020	Tracey Skene	Culturally Aware	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Discuss and set another date for interview.
23/9/2020	Chloe Annandale	MACH	Email	Kylie Pascoe	Hunter Valley Aboriginal Corporation	Acknowledged receipt of draft ACHA.
23/9/2020	Chloe Annandale	MACH	Email	Noel Downs	Wanaruah LALC	Provided comments on draft ACHA and other matters.
23/9/2020	George Sampson	Cacatua General Services	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. George indicated that he does not have any comments on the report.
23/9/2020	Amanda Howard	Upper Hunter Community Health	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Left a voice message, no contact back.
23/9/2020	Allen Paget	Ungooroo Aboriginal Corporation	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Called mobile – message that the recipient is not available. No option to leave a voice message. No call back. Called the corporation – spoke to Sophie who indicated Allen is not in and unsure whether he will be.
23/9/2020	Luke Hickey	Hunter Valley Cultural Surveying	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Invalid phone number.
23/9/2020	Clifford Johnson		Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Left a voice message (converted to SMS), no contact back.
23/9/2020	Darrel Matthews	Upper Hunter Heritage Consultants	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Invalid phone number – reached Mark who is not part of Upper Hunter Heritage Consultants. Requested the phone number is removed from MACH's database.

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
23/9/2020	David French	Upper Hunter Natural and Cultural Resources Management	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Mobile service unavailable at the time. Called the landline – invalid phone number.
23/9/2020	Elizabeth Howard	Elizabeth Howard	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Left a voice message, no contact back.
23/9/2020	Jeff Matthews	Crimson-Rosie	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Left a voice message, no contact back.
23/9/2020	Luke Cameron	Luke Cameron Cultural Management	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Left a voice message. Call back – Luke indicated he has not read the report. Asked what the Project is about – PG explained that the ACHA forms part of the SSD Application for the Mount Pleasant Optimisation Project, referred to the draft ACHA for further Project details and suggested Luke emails or calls Chloe with any further queries. Luke advised he would read the report and send back comments by 5pm. No comments received to date.
23/9/2020	Tony Griffith	T & G Culture Consultants	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Invalid phone number.
23/9/2020	Suzie Worth and Noel Downs	Wanaruah Local Aboriginal Lands Council	Telephone	Polina Golberg	MACH	Reminder comments on the draft ACHA due 23/9/2020. Noel – indicated that he had not had time to read through the report. Provided the following verbal comments: - Asked whether they will be contacted to talk about cultural values. PG advised that Susan Donaldson was in the process of completing the study and would call. - Wants to see water protected. Prefers the cultural offset area be alongside a creek or a river. - Noted that MACH has an offset (conservation) area that is over where Muswellbrook Coal is. Noted that there was concern as part of the offset (conservation) area is at risk from Muswellbrook Coal, as it is within the boundary of the Muswellbrook Coal mine footprint. Wants to see the offset (conservation) area moved to alongside the river. - Understands that MACH has a couple of kilometres of riverfront land, and would rather see the riparian zone on the river front protected, revegetated and taken back to how it used to be with traditional foods, maybe with a walking path through it and that kind of thing, and an area that nobody can access that's always going to be at risk of mining. - Suggested he would respond

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
						in writing by 5pm. - Noel provided Suzie's updated phone number.
24/9/2020	Chloe Annandale	MACH	Email	Kylie Pascoe	Hunter Valley Aboriginal Corporation	Responded to draft ACHA in support of recommendations.
27/09/2020	Tracey Skene	Culturally Aware	Telephone / text	Susan Dale Donaldson	Environmental and Cultural Services	Left text and voice message.
2/10/2020	Kathy Steward-Kinchela	Yinarr Cultural Services	Email	Chloe Annandale, Chris Lauritzen	MACH	Provided draft ACHA report for review with a request for comment, after identification that original email not received.
05/10/2020	Noel Downs	Wanaruah LALC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details; followed by provision of information via email for consideration / informed consent.
06/10/2020	Noel Downs	Wanaruah LALC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Planning interview
07/10/2020	Noel Downs	Wanaruah LALC	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Interview undertaken
13/10/2020	Noel Downs	Wanaruah LALC	Email	Susan Dale Donaldson	Environmental and Cultural Services	Interview review

Heritage NSW (Former OEH / BCD) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* - Mount Pleasant Optimisation Project – Relevant Correspondence

Correspondence sent in Stage 1 (Step 4.1.2) of Heritage NSW consultation process:

MACH Energy Australia Pty Ltd
ABN 34 608 495 441
t: +61 8 6141 7100
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

4 May 2017

Wanaruah Local Aboriginal Land Council
PO Box 127
MUSWELLBROOK NSW 2333

Dear Noel,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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MACH Energy Australia Pty Ltd
C/- Danielle Wallace
PO Box 379, WEST RYDE NSW 2114
[redacted]
Mobile: [redacted]

MACH Energy

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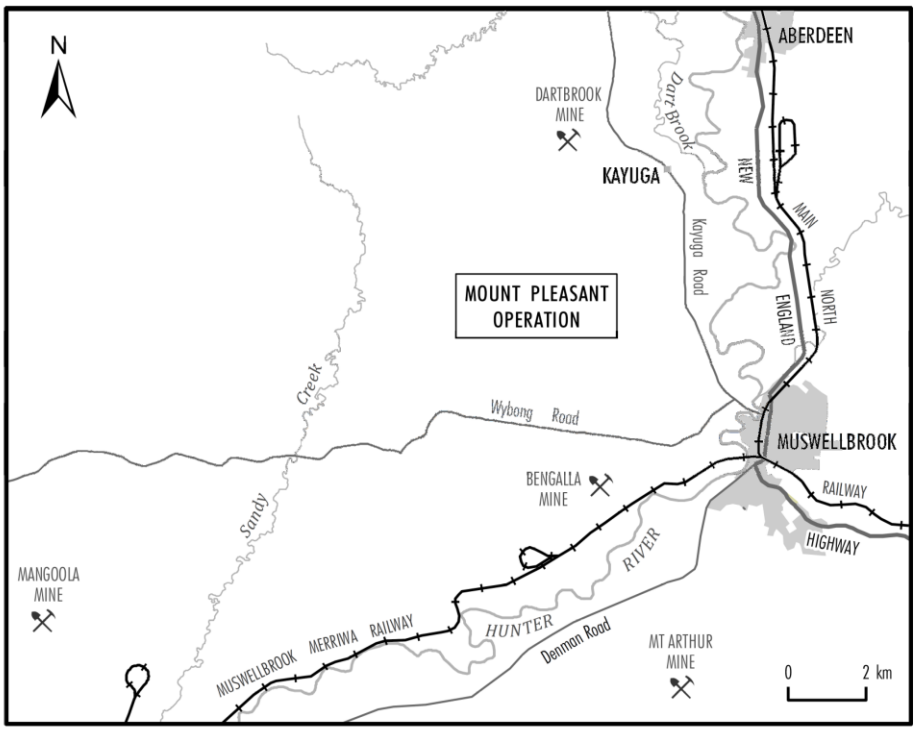
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Yours sincerely,

Chris Lauritzen
General Manager – Resource Development
MACH Energy Australia Pty Ltd

Plan showing 'Area of Interest'



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4 May 2017

Office of Environment and Heritage
PO Box 2111
DUBBO NSW 2830

Dear Sir/Madam,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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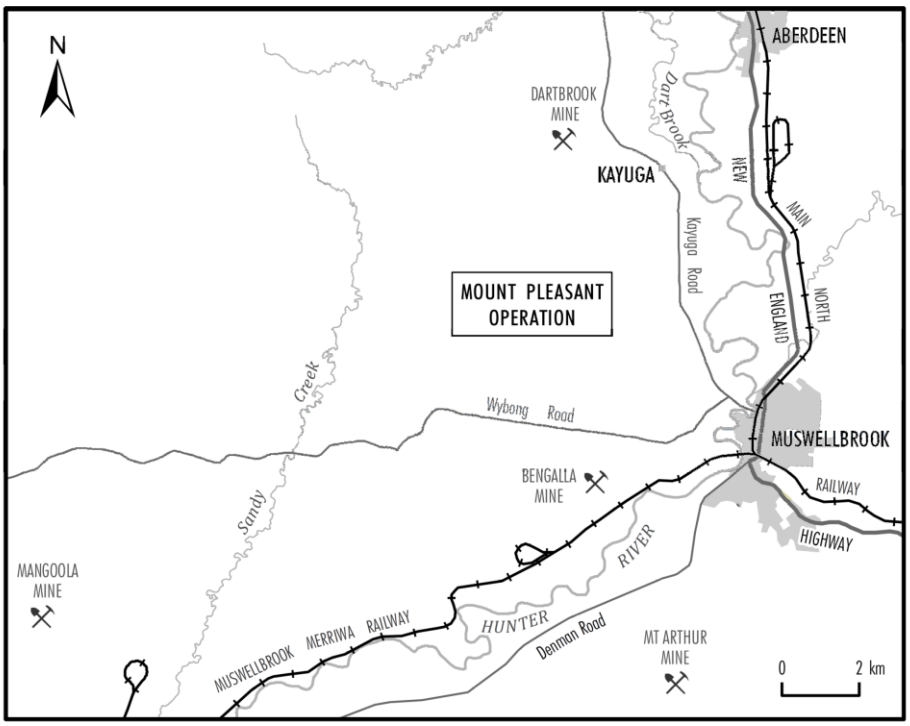
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4 May 2017

Muswellbrook Shire Council
Attn: Steve McDonald, General Manager
PO Box 122
MUSWELLBROOK NSW 2333

Dear Steve,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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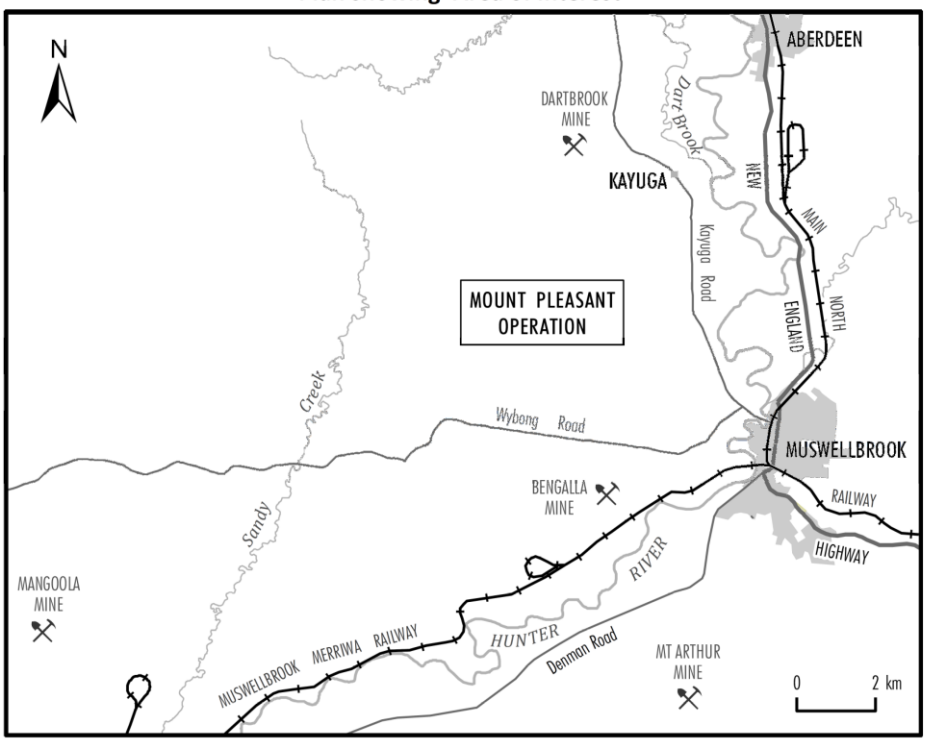
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MACH Energy Australia Pty Ltd

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4 May 2017

Hunter Local Land Services
Attn: Brett Miners, General Manager
98 John Street
SINGLETON NSW 2330

Dear Brett,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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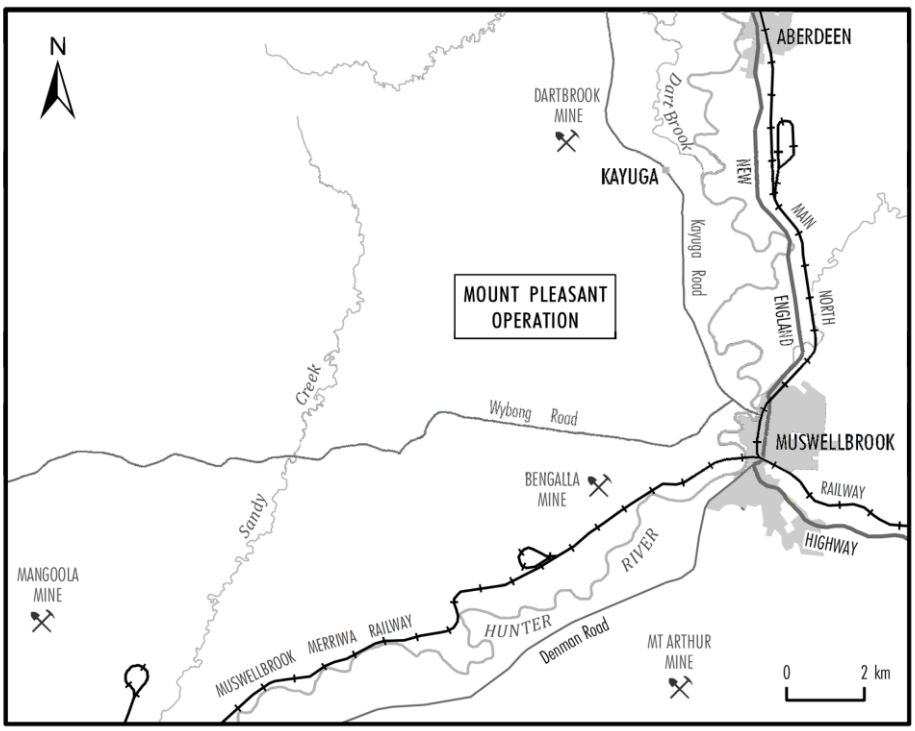
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4 May 2017

Native Title Services Corporation Limited
PO Box 2105
STRAWBERRY HILLS NSW 2012

Dear Sir/Madam,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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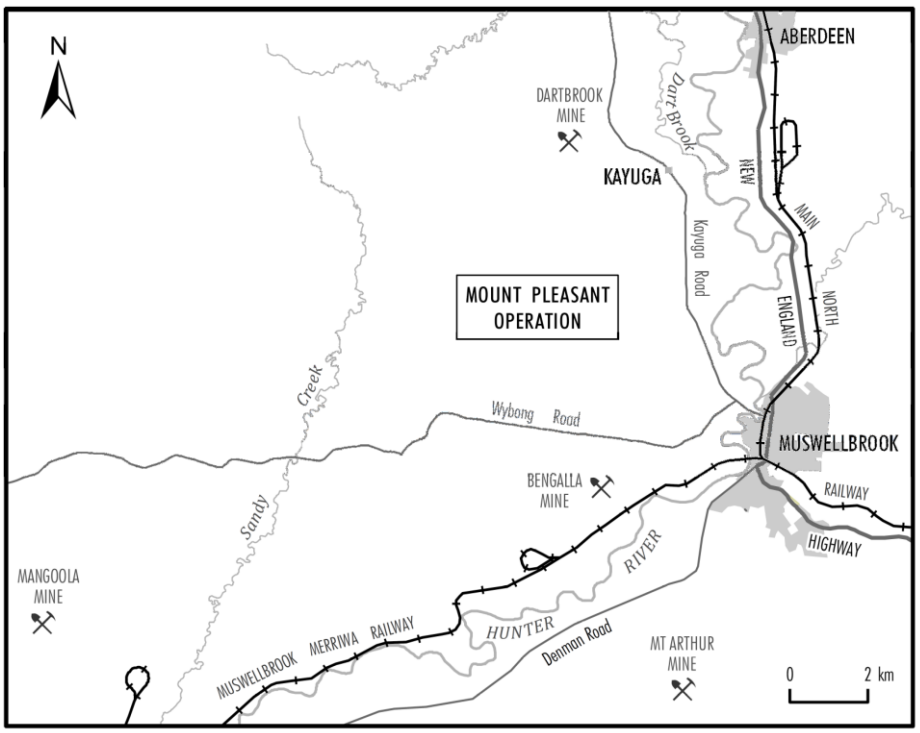
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4 May 2017

National Native Title Tribunal
NSW & ACT Registry
GPO Box 9973
SYDNEY NSW 2001

Dear Sir/Madam,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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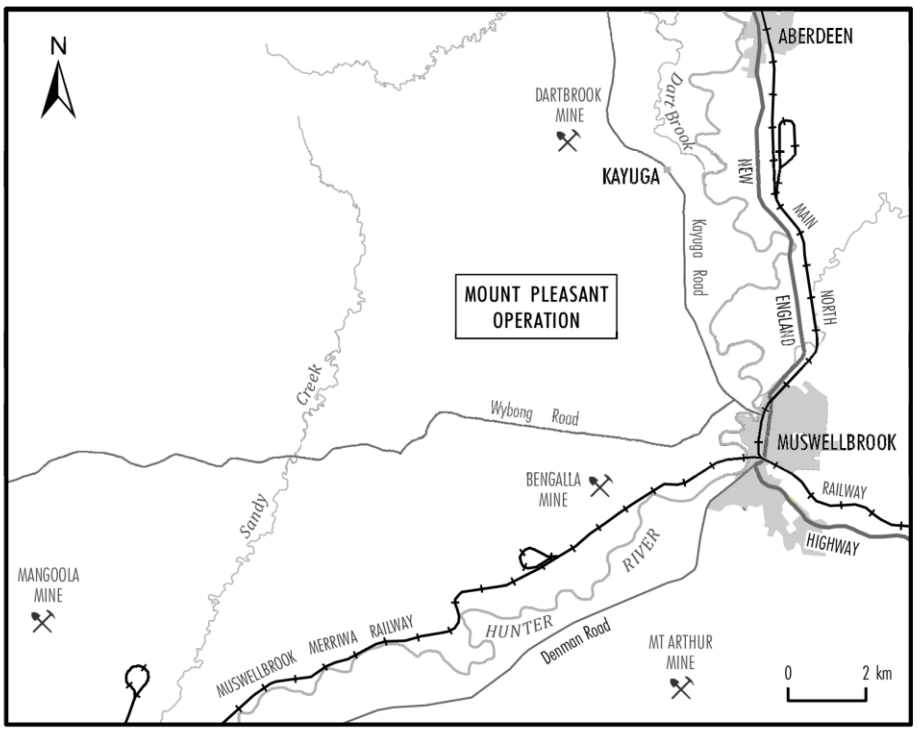
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Chris Lauritzen
General Manager – Resource Development
MACH Energy Australia Pty Ltd

Plan showing 'Area of Interest'



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4 May 2017

The Registrar
Office of the Registrar, Aboriginal Land Rights Act 1983
PO Box 112
GLEBE NSW 2037

Dear Sir/Madam,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

The Mount Pleasant Operation (MPO) is situated 4km north-west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW).

MACH Energy Australia Pty Limited (MACH Energy) is seeking environmental approvals under the NSW *Environmental Planning and Assessment Act, 1979* and/or Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* for potential future development associated with the approved MPO Development Consent (DA 92/97).

As part of these environmental approvals, MACH Energy will be preparing an Aboriginal Cultural Heritage Assessment(s), and therefore may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW *National Parks and Wildlife Act, 1974* to move and/or destroy Aboriginal objects (or a variation to the existing permits [AHIP #C0002053, #C0002092]). The subject area of the any such application is depicted as the "Area of Interest" as shown on the enclosed plan.

For the purposes of meeting its consultation requirements as set out in the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010) (Consultation Guidelines) issued by the NSW Office of Environment and Heritage, MACH Energy hereby notifies you that it would like to consult with any Aboriginal persons or groups who may hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the "Area of Interest".

Should you know of any Aboriginal person or group who may wish to be consulted in relation to the process described above, could you please provide their details before **5.00pm on 23 May 2017** to MACH Energy via the following contact details:

MACH Energy Australia Pty Ltd
C/- Danielle Wallace
PO Box 379, WEST RYDE NSW 2114
[redacted]
Mobile: [redacted]

MACH Energy will then write to each Aboriginal person or group whose details are provided by you to notify them of the process and invite them to register an interest in the process of community consultation to be carried out in accordance with the Consultation Guidelines.

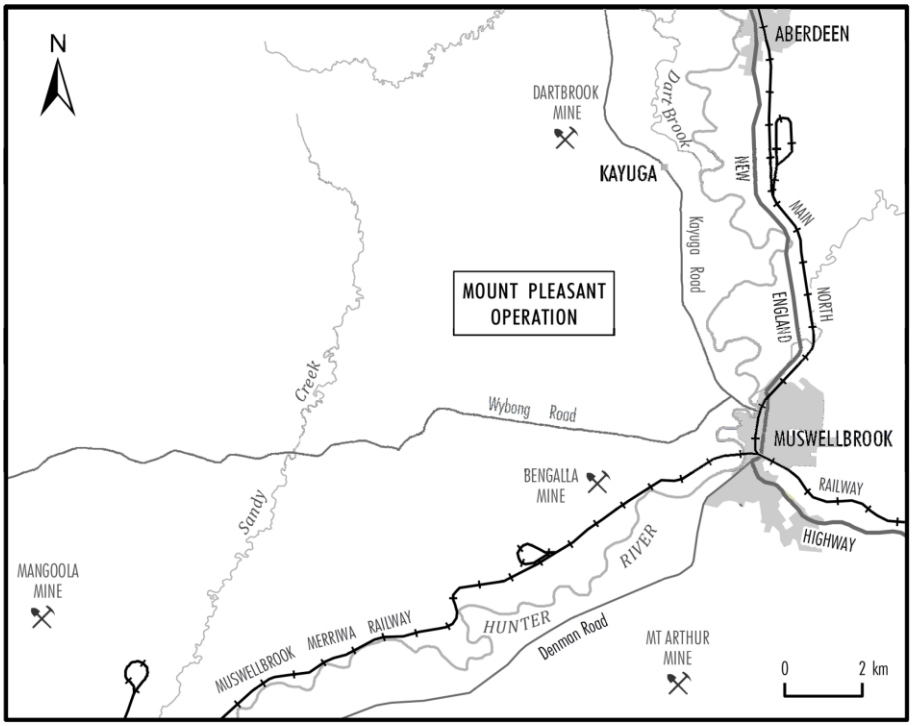
Please note that MACH Energy proposes to automatically register all existing Registered Aboriginal Parties currently being consulted at the Mount Pleasant Operation. Correspondence will be provided to these parties separately in this regard.

MACH Energy advises that the details of any Aboriginal person or group who registers an interest in the consultation process for the Mount Pleasant Operation will be forwarded to the NSW Office of Environment and Heritage and the Wanaruah Local Aboriginal Land Council in accordance with section 4.1.5. of the Consultation Guidelines, unless they specify that they do not want their details released.

Yours sincerely,

Chris Lauritzen
General Manager – Resource Development
MACH Energy Australia Pty Ltd

Plan showing 'Area of Interest'



Responses received in relation to Stage 1 (Step 4.1.2) of Heritage NSW consultation process from government agencies and LALC:

From: Admin-Wanaruah [admin.wanaruah@bigpond.com]
Sent: Wednesday, 10 May 2017 3:49 PM
To: Danielle Wallace
Subject: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment
Attachments: admin.wanaruah@bigpond.com_20170510_150339.pdf; Registered Aboriginal Parties.xlsx

Good afternoon Danielle,

Please find attached Wanaruah Lalc's letter of interest and a list of Registered Aboriginal Parties that may be interested in the process.

Regards
Renee

Renee MacDonald
Administration

Wanaruah Local Aboriginal Land Council

PO Box 127
MUSWELLBROOK NSW 2333
Ph: 02 6543 1288

I acknowledge the Traditional Owners of the land I work upon, the Wanaruah People and pay my respects to Elders past, present and future.

LOCAL ABORIGINAL LAND COUNCIL
WANARUAH
P.O. BOX 127
19 MAITLAND STREET,
MUSWELLBROOK 2333
ABN 33 251 730 169
PH: (02) 6543 1288
(02) 6543 1962
FAX: (02) 6542 5377
EMAIL: wanarua@bigpond.net.au

10th May 2017

Attn: Danielle Wallace,
PO Box 379 West Ryde NSW 2114
[redacted]
(Sent by email)

Re: Mount Pleasant Operation – Aboriginal Culture Heritage Assessment

Dear Danielle,

Thank you for your letter dated 4th May 2017 relating to the above subject.

Wanaruah Local Aboriginal Land Council wishes to be consulted on these matters.

Please find attached a list of Registered Aboriginal Parties who may also wish to be included in this consultation process.

Please do not hesitate to contact Wanaruah LALC should you require any further information or assistance in this venture.

We look forward to working with you in the future.

Regards

Renee MacDonald
Administration Officer
Wanaruah Local Aboriginal Land Council



Organisation	Contact	Address 1	City	Phone	Mobile	Email	Alternative Address
Aboriginal Native Title Elders Consultants	Margaret Matthews	4 Calgaroo Avenue	Muswellbrook, NSW 2333				
Aliera French Trading	Aliera French	12 Haydon Street	Muswellbrook, NSW 2333	(02) 6541 2765			
Black Creek Aboriginal Corporation	Tracey White	PO Box 168	Kurri Kurri, NSW 2327	(02) 4990 6747			
Bullen Bullen	Loyd Mathews	16B Mahogany Avenue	Muswellbrook, NSW 2333				
Cacatua Culture Consultants	Donna & George Sampson	Unit 1b/11 Glenwood Dr	Thornton, NSW 2322	(02) 4028 6942 (02) 4028 6943			
Carrawonga Consultants	Cheryl Moodie & Justin Mathews	11 Coolibah Close	Muswellbrook, NSW 2333				
Culturally Aware	Tracey Skene	7 Crawford Place	Millfield, NSW 2325				
D F T V Enterprises	Derrick Vale Sr	11/97 Brooke Street	Muswellbrook, NSW 2333				5 Mountbatten Close, Rutherford NSW 2320
Deslee Talbott Consultants	Deslee Matthews	Unit 2/19 South Street	Gunnedah NSW 2380				
Gidawaa Walang & Barkuma Neighbourhood Centre	Debbie Dacey-Sullivan	76 Lang Street	Kurri Kurri, NSW 2327	(02) 4937 1094			
Giwiirr Consultants	Michele Stair	8 Fitzgerald Avenue	Muswellbrook, NSW 2333	(02) 6541 0506			
Hunter Traditional Owner	Paulette Ryan	14 Barton Avenue	Singleton Heights	(02) 6474 4906			
Hunter Valley Aboriginal Corporation	Rhonda Griffith	PO Box 579	Muswellbrook, NSW 2333				
Hunter Valley Cultural Consultants	Christine Matthews	40 Humphries Street	Muswellbrook, NSW 2333	(02) 6543 4521			
Hunter Valley Cultural Surveying	Luke Hickey	165 Susan Street	Scone, NSW 2337	(02) 6541 0525			
Hunter Valley Environment Land & Mining Services	Des Hickey	4 Kennedy Street	Singleton NSW 2330				
Hunter Valley Natural & Cultural Resources	David French	10 Mill Street	Muswellbrook, NSW 2333				
Indigenous Outcomes	Robert Smith	33 Clif Street	Heddon Greta, NSW 2321				
Jarban + Mugrebea	Les Atkinson	11 Nelson Street	Cessnock, NSW 2325				
Kawul Cultural Services	Jeff Matthews	6 Eucalypt Avenue	Muswellbrook, NSW 2333	(02) 6543 4791			
Kayaway	Vicky Slater	Po Box 817	Singleton, NSW 2330				
Lower Hunter Wonnarua Council Inc	Mark Hickey Lea-Anne Ball Uncle Tommy Miller	6/20-22 Government Rd 51 Bowden Street	Thornton, NSW 2322 Heddon Greta, NSW 2321	(02) 4937 2694			
Lower Wonnaruah Tribal Consultancy Pty Ltd	Barry Anderson	156 The Inlet RD	Bulga, NSW 2330				
Mingga Consultants	Clifford Matthews	11 Coolibah Close	Muswellbrook, NSW 2333	(02) 6541 0751			
Mooki Plains Management	Stephen Matthews	28 Herbert Street	Gunnedah NSW 2380	(02) 6742 5563			
Mooki Plains Management	Les Field	4 Hinton Dr	Gunnedah NSW 2380	(02) 6742 5563			
Muswellbrook Cultural Consultants	Brian Horton	10 Scott Steet	Muswellbrook, NSW 2333				
Ngarramang-Kuri Aboriginal Culture & Heritage Group	Abie Wright	21 Bancroft Street	Glendale, NSW 2285				
Roger Noel Matthews Consultancy	Roger Noel	15 Parkinson Avenue	Muswellbrook, NSW 2333				
	Scott Smith	Unit 4 122 Upper Street	Tamworth NSW 2340				
St Clair Singleton Aboriginal Corporation	Cultural Heritage Officer	PO Box 710	Singleton, NSW 2330				
T & G Culture Consultants		19 O'Donnell Cres	Metford, NSW 2323				
Ungooroo Cultural & Community Services	Rhonda Ward	8 Blaxland Avenue	Singleton, NSW 2330				
Ungooroo Aboriginal Corporation	Alan Paget & Sarah Hall	PO Box 3095	Singleton, NSW 2330	(02) 6571 5111			
Upper Hunter Heritage Consultants	Melissa & Darrel Matthews	14 Edinglassie Avenue	Muswellbrook, NSW 2333	(02) 6541 3532 (02) 6572 1889			
Upper Hunter Wonnarua Council Inc	Rhonda Perry & Georgina	17/174 John Street	Singleton, NSW 2330	(02) 6572 1500			
Valley Culture,	Larry Van Vliet	140 Sydney Street	Muswellbrook, NSW 2333				
Wanaruah Custodians	Barbara Foot	35 Acacia Circuit	Singleton, NSW 2330	(02) 6573 1712			
Wanaruah Local Aboriginal Land Council		PO Box 127	Muswellbrook, NSW 2333	(02) 6543 1288			
Wattaka Wonnarua C.C. Service	Des Hickey	4 Kennedy Street	Singleton, NSW 2330	(02) 6573 3786 (02) 6571 2609			
Widescope Indigenous Group pty Ltd	Amanda Hickey	73 Russell Street	Emu Plains, NSW 2750				
Wonn 1 Contracting	Arthur Fletcher	619 Main Rd	Glendale, NSW 2285	(02) 4954 7751			
Wonnarua Culture Heritage	Gordon Griffiths	19 O'Donnell Crescent	Metford, NSW 2323	(02) 4934 6437			
Wonnarua Nation Aboriginal Corporation	Laurie Perry	PO Box 3066	Singleton, NSW 2330	(02) 6571 5419			
Wonnaruah Elders Council	Uncle Tommy Miller	PO Box 184	Singleton NSW 2330				
Tocomwall	Scott Franks						

Yinarr Cultural Services	Kathleen Steward	111 Westwood Rd	Gungal, NSW 2333	(02) 6547 6077	
	Alison Sampson	36 Hill Street	Caroona, NSW 2343		
Devine diggers Aboriginal Cultural Consultants	Deidre Perkins	6 Ashleigh Street	Heddon Greta, NSW 2321	(02) 4937 4573	
DRM Cultural Management	Helen Faulkner	81 Wansbeck Valley Rd	Cardiff, NSW 2285		
Esther Tighe		1/86 Edward Street	Gunnedah NSW 2380	(02) 6742 7105	
Griffiths Group	Priscilla Priestley	7 Yeoman Avenue	Metford, NSW 2323		
Lower Hunter Aboriginal Incorporated	Les Ahoy	74 Hayden Brook Rd	Booragul, NSW 2284		
	Michelle Saunders	24 Walhallow Village	Walhallow, NSW 2343		
Mindaribba Local Aboriginal Land Council		PO Box 401	East Maitland, NSW 2323	(02) 4934 8511	
Murrawan Cultural Consultants Pty Ltd	Robert Smith	33 Clif Street	Heddon Greta, NSW 2321		
Moreeites	Susan Cutmore	Unit 11/97 Brook Street	Muswellbrook, NSW 2333		
Myland Cultural & Heritage Group	Warren Schillings	30 Taurus Street	Elermore Vale, NSW 2287		
	Ron Smith	Flat 8 6 Hastings River Dr	Port Macquarie, NSW 2444		
	Rosyln Sampson	Unit 4 122 Upper Street	Tamworth NSW 2340		
	Rebecca Lester	297 Pioneer Rd	Singleton, NSW 2330		
Waabi Gabinya Cultural Consultancy	Elizabeth Howard	19 Foley Street	Muswellbrook, NSW 2333		
Wallagan Cultural Services	Maree Waugh	PO Box 40	Cessnock, NSW 2325		
Warrigal Cultural Services	Aaron Slater	PO Box 1095	Singleton, NSW 2330		
Smith Dhagaans Cultural group	Tim Smith	46 Springvale Cct	Cameron Park, NSW 2285		
	Steven Saunders	35 Walhallow Village	Caroona, NSW 2343		
Thawan Heritage Consultant	Jennifer Hampton	35 Larool Street	Tamworth NSW 2340		
	Trevor Robinson	PO Box 73	Peak Hill, NSW 2869		
Wurrumay Consultants	Kerrie Slater	PO Box 817	Singleton, NSW 2330		
J & A Leonardi		69 Nelson Street	Barnsley, NSW 2278	(02) 4955 2136	
	Stephen Talbot	28a Kiah Rd	Gillieston Heights, NSW 2321		
Wonnarua Traditional Custodian	Des Hickey	4 Kennedy Street	Singleton, NSW 2330		
	Barry French	12 Haydon Street	Muswellbrook, NSW 2333		
	Mandy Howard				
JLC Cultural Services	Jenny-Lee Chambers	33 Goulburn Drive	Sandy Hollow, 2333		
	Warren Taggart				
Giwirr Consultants	Rodney Matthews			02 6541 0506	
	Glen Morris			02 6543 3008	
	David Horton				

From: Naomi Golightly [Naomi.Golightly@environment.nsw.gov.au]
Sent: Thursday, 11 May 2017 10:01 AM
To: Danielle Wallace
Subject: OEH Aboriginal Stakeholder Register for Upper Hunter Shire LGA
Attachments: RODHCC_Aboriginal Stakeholder Register_10032017_Upper Hunter Shire.pdf

Dear Danielle,

I refer to your letter to the Office of Environment and Heritage, dated 4 May 2017.

Please find attached the Aboriginal Stakeholder list for your nominated project area.

The attached list includes self-nominated individuals and Aboriginal organisations who may wish to register an interest in your project. Further consultation in accordance with the DECCW 2010 *Aboriginal cultural heritage consultation requirements for proponents* is required to identify the Aboriginal people on this list who may hold either cultural or historical knowledge relevant to determining the significance of Aboriginal objects and/or places within your proposed project area.

To ensure we can respond to enquiries promptly, please direct future correspondence to our central mailbox: [redacted]

Should you require any further information, please do not hesitate to contact us.

Kind regards,

Naomi Golightly
Assistant Regional Operations Officer
Hunter Central Coast Branch
Regional Operations Division
Office of Environment and Heritage
Locked Bag 1002, Dangar, NSW 2309
(Level 4/26 Honeysuckle Drive, Newcastle)
T: 4927 3179
M: [redacted]
W: [redacted]

Office of Environment & Heritage
NSW GOVERNMENT

Hunter Central Coast Branch
Regional Operations Division
Aboriginal Stakeholder Register

Upper Hunter Shire Council

Organisation	First name	Surname	Address 1	City	State	Post code	Landline	Mobile	Email
	Michelle	Saunders	24 Walhallow Village	CAROONA	NSW	2343		[redacted]	
Hunter Valley Aboriginal Corporation	Rhonda	Griffiths	182 Bridge St	MUSWELLBROOK	NSW	2333	02 6543 1180		
Lower Wonnaruah Tribal Consultancy Pty Ltd	Barry	Anderson	156 The Inlet Road	BULGA	NSW	2330	02 6574 5303		
Wallagan Cultural Services	Maree	Waugh	PO Box 40	CESSNOCK	NSW	2325			
Ungooroo Aboriginal Corporation	Alan	Paget	PO Box 3095	SINGLETON	NSW	2330	(02) 6571 5111		
Culturally Aware	Tracey	Skene	7 Crawford Place	MILFIELD	NSW	2325			
Wonnarua Nation Aboriginal Corporation	Laurie	Perry	254 John St	SINGLETON	NSW	2330			
Kauma Pondee Inc.	Jill	Green	Unit 6/1 Central Street	LAMBTON	NSW	2305			
Jarban & Mugrebea	Les	Atkinson	11 Nelson Street	CESSNOCK	NSW	2325			
Wonnarua Culture Heritage	Gordon	Griffiths	19 O'Donnell Crescent	METFORD	NSW	2323	02 4934 6437		
Kawul Cultural Services	Vicky	Slater	33 Gardner Circuit	SINGLETON	NSW	2330			
Jumbunna Traffic Management Group Pty Ltd	Norm	Archibald	17 Flobern Ave	WAUCHOPE	NSW	2446			
Aliera French Trading	Aliera	French	23B Gommera St	BLACKSMITHS	NSW	2281			
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	Ann Hickey	Debbie Dacey-Sullivan	76 Lang Street	KURRI KURRI	NSW	2327	02 4937 1094		
Yarrawalk (A division of Tocomwall Pty Ltd), Tocomwall Pty Ltd on behalf of Scott Franks and Anor on behalf of the Plains Clans of the Wonnaru People NSD1680/2013	Scott	Franks	PO Box 76	CARRINGBAH	NSW	1495			
Deslee Talbott Consultants	Deslee	Matthews	Unit 2 / 19 South Street	GUNNEDAH	NSW	2380			
D F T V Enterprises	Derrick	Vale Snr	5 Mountbatten Close	RUTHERFORD	NSW	2320			
Myland Cultural & Heritage Group	Warren	Schillings	30 Taurus Street	ELERMORE VALE	NSW	2287			
Hunters & Collectors	Tania	Matthews	U211 Walowa St	NARRABRI	NSW	2390			
AGA Services	Adam	Sampson	260 Hidden Valley Row	WYBONG	NSW	2333			
	Steve	Talbott	73 Kiah Road	GILLIESTON HEIGHTS	NSW	2321			
Cacatua Culture Consultants	Donna & George	Sampson	260 Hidden Valley Row	WYBONG	NSW	2333	02 4028 6942		
Divine Diggers Aboriginal Cultural Consultants	Deidre	Perkins	6 Ashleigh Street	HEDDON GRETA	NSW	2321	02 4937 4573		
Crimson-Rosie	Jeffery	Matthews	6 Eucalypt Avenue	MUSWELLBROOK	NSW	2333	02 6543 4791		

TOC

Office of Environment & Heritage

Hunter Central Coast Branch
Regional Operations Division
Aboriginal Stakeholder Register

Upper Hunter Shire Council

Organisation	First name	Surname	Address 1	City	State	Post code	Landline	Mobile	Email
Wonnarua Elders Council	Richard	Edwards	PO Box 844	CESSNOCK	NSW	2325		[redacted]	
Lower Hunter Wonnarua Cultural Services	Lea-Anne Ball and Uncle Tommy Miller		51 Bowden Street	HEDDON GRETA	NSW	2321	02 4937 2694		
Lower Hunter Aboriginal Incorporated	David	Ahoy	5 Killara Drive	CARDIFF SOUTH	NSW	2285			
Wattaka Wonnarua CC Service	Des	Hickey	4 Kennedy Street	SINGLETON	NSW	2330			
Widescope Indigenous Group	Steven	Hickey	73 Russell Street	EMU PLAINS	NSW	2750			
Kawul Pty Ltd trading as Wonn1 Sites	Arthur	Fletcher	619 Main Road	GLENDALE	NSW	2285	02 4954 7751		
Roger Matthews Consultancy	Roger	Matthews	15 Parkinson Avenue	MUSWELLBROOK	NSW	2333			
Yinarr Cultural Services	Kathleen	Steward Kinchela	Lot 5 Westwood Estat	MERRIWA	NSW	2329			
Hunter Traditional Owner	Paulette	Ryan	165 Susan Street	SCONE	NSW	2337			

TOC

From: Kim Manwarring [redacted]
Sent: Wednesday, 24 May 2017 10:29 AM
To: Danielle Wallace
Cc: Scott Brooks
Subject: FW: MACH Energy Aboriginal Cultural Heritage Assessment Correspondence
Attachments: MACH Energy - Registration of Aboriginal Interest Groups for Cultural Heritage Assessment.pdf

Good Morning Danielle

Thankyou for your correspondence.

We have forwarded this onto Wanaruah Local Aboriginal Land Council as well as Hunter Valley Aboriginal Corporation for their information and consultation with interested Members.

We note that the closing date was yesterday.

Regards

Kim

Kim Manwarring
Community Worker

Direct: 02 6549 3764
Mobile: [redacted]

www.muswellbrook.nsw.gov.au

I respectfully acknowledge the local Aboriginal people who are the Traditional Owners and Custodians of the land on which I work.

muswellbrook shire council

explore www.workingwithatsi.info

From: Kim Manwarring
Sent: Wednesday, 24 May 2017 10:20 AM
To: [redacted]; Noel Downs [redacted]; Wanaruah Admin (admin.wanaruah@bigpond.com)
Cc: Scott Brooks
Subject: MACH Energy Aboriginal Cultural Heritage Assessment Correspondence

Good Morning Ross and Noel

Please find attached correspondence Council has received from MACH Energy.

Council apologises for the lateness in providing this correspondence to you.

We are hoping that your organisations and members have been directly consulted with regarding the preparation of the Aboriginal Cultural Heritage Assessment.

Regards

OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

11-13 Mansfield Street
Glebe NSW 2037
PO Box 112, Glebe NSW 2037
P. 02 9562 6327 F. 02 9562 6350

26 May 2017

MACH Energy Australia Pty Ltd
C/- Danielle Wallace
PO Box 379
WEST RYDE NSW 2114

Dear Danielle

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter dated 4 May 2017 regarding Aboriginal Cultural Heritage Assessment within the area of Muswellbrook, NSW.

I have searched the Register of Aboriginal Owners and the project area described *does not appear* to have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act* 1983 (NSW).

I suggest that you contact the Wanaruah Local Aboriginal Land Council on 02 6543 1288. They will be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

B. Ceissman

Bianca Ceissman
Administration Support Officer
Office of the Registrar, *Aboriginal Land Rights Act 1983 (NSW)*

Media advertisement placed for Stage 1 (Step 4.1.3) Heritage NSW consultation process:

Koori Mail 31 May 2017

Mount Pleasant Operation
Aboriginal Cultural Heritage Assessment

The Mount Pleasant Operation (MPO) is situated 4km north-west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW).

MACH Energy Australia Pty Limited (MACH Energy) is seeking environmental approvals under the NSW *Environmental Planning and Assessment Act, 1979* and/or Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* for potential future development associated with the approved MPO Development Consent (DA 92/97).

As part of these environmental approvals, MACH Energy will be preparing an Aboriginal Cultural Heritage Assessment(s), and therefore may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW *National Parks and Wildlife Act, 1974* to move and/or destroy Aboriginal objects (or a variation to the existing permits [AHIP #C0002053, #C0002092]). The subject area of any such application is depicted as the "Area of Interest" as shown on the plan below.

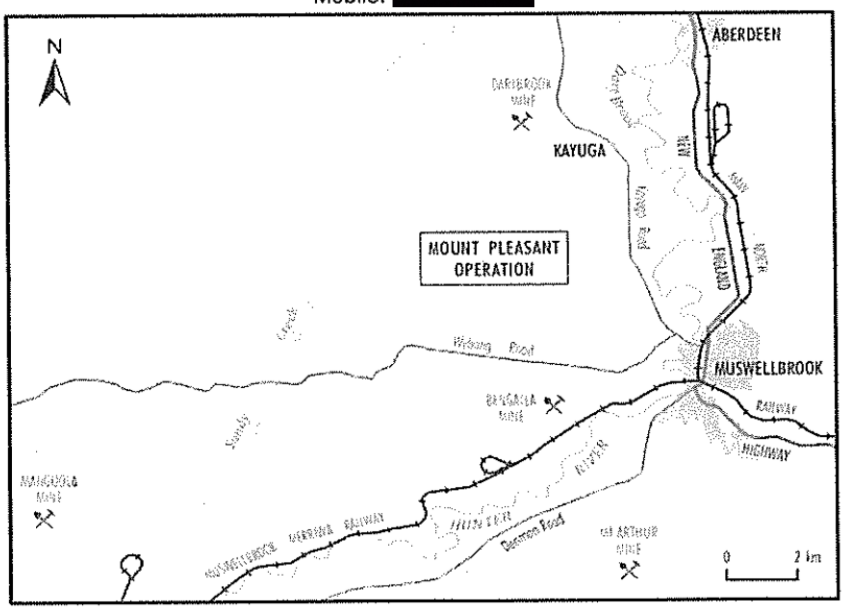
MACH Energy is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment. Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the "Area of Interest" are invited to register an interest in a process of community consultation.

MACH Energy advises that the details of any Aboriginal person or group who registers an interest in the consultation process for the Mount Pleasant Operation will be forwarded to the NSW Office of Environment and Heritage and the Wanaruah Local Aboriginal Land Council in accordance with Section 4.1.5. of the Consultation Guidelines, unless they specify that they do not want their details released.

Please note that any opportunities for engagement during the Aboriginal Cultural Heritage Assessment process would be separate to the consultation process.

Contact details for registration are as follows. **Registrations must be made by 5.00pm AEST on Friday 16 June 2017.**

MACH Energy Australia Pty Ltd
C/- Julie Fletcher
Email: [redacted]
Mobile: [redacted]



0152SV

The Voice of Indigenous Australia

Singleton Argus 31 May 2017

The Singleton Argus Connect with CI

Public Notices

SINGLETON ARGUS CLASSIFIEDS
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Public Notices

Mount Pleasant Operation
Aboriginal Cultural Heritage Assessment

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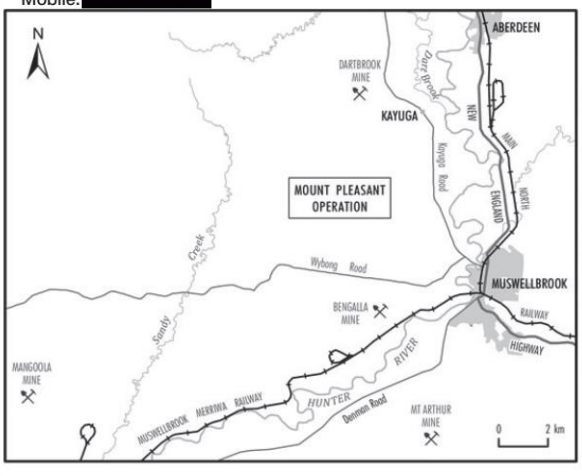
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Contact details for registration are as follows. **Registrations must be made by 5.00pm AEST on Friday 16 June 2017.**

MACH Energy Australia Pty Ltd
C/- Julie Fletcher
Email: [redacted]
Mobile: [redacted]



Muswellbrook Chronicle 2 June 2017

Mount Pleasant Operation
Aboriginal Cultural Heritage Assessment

The Mount Pleasant Operation (MPO) is situated 4km north-west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW).

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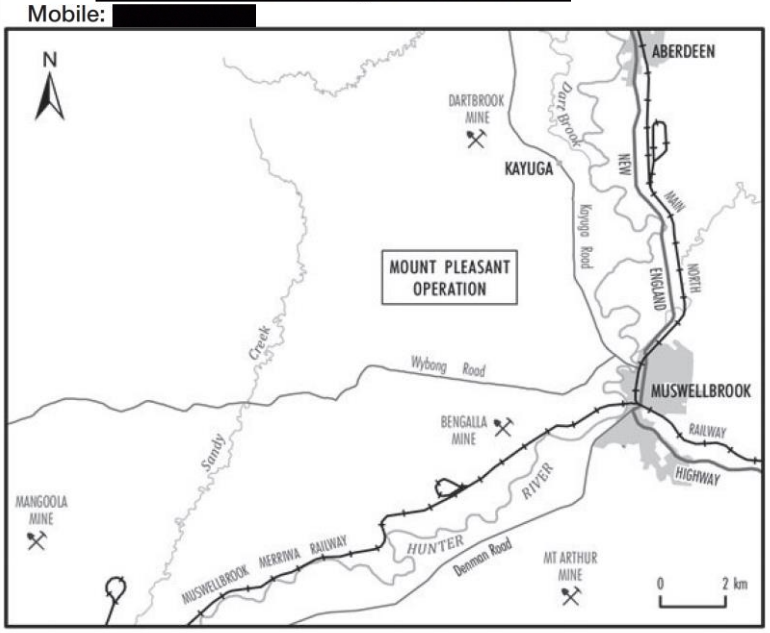
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Contact details for registration are as follows. **Registrations must be made by 5.00pm AEST on Friday 16 June 2017.**

MACH Energy Australia Pty Ltd
C/- Julie Fletcher
Email: [redacted]
Mobile: [redacted]



Example of correspondence sent in Stage 1 (Step 4.1.3) of Heritage NSW consultation process[2]:

MACH Energy Australia Pty Ltd

ABN 34 608 495 441

t: +61 8 6141 7100
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

29 May 2017

Michelle Saunders
24 Walhallow Village
CAROONA NSW 2343

Dear Michelle,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

The Mount Pleasant Operation (MPO) is situated 4km north-west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW).

MACH Energy Australia Pty Limited (MACH Energy) is seeking environmental approvals under the NSW *Environmental Planning and Assessment Act, 1979* and/or Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* for potential future development associated with the approved MPO Development Consent (DA 92/97).

As part of these environmental approvals, MACH Energy will be preparing an Aboriginal Cultural Heritage Assessment(s), and therefore may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW *National Parks and Wildlife Act, 1974* to move and/or destroy Aboriginal objects (or a variation to the existing permits [AHIP #C0002053, #C0002092]). The subject area of the any such application is depicted as the "Area of Interest" as shown on the plan below.

In accordance with the requirements as set out in the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010) (Consultation Guidelines) issued by the NSW Office of Environment and Heritage, MACH Energy is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment.

Also in accordance with the requirements of the Consultation Guidelines, Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the "Area of Interest" are invited to register an interest in a process of community consultation with MACH Energy.

[2] Sent to all organisations/individuals notified about in responses provided by government authorities and LALC in relation to Step 4.1.2 of consultation process, other than those previously registered for the MPO and deemed to be registered for this Project (refer below).

MACHEnergy

Should you wish to register an interest in the community consultation process described above, could you please provide your details before **5.00pm on Friday 16 June 2017** to MACH Energy via the following contact details:

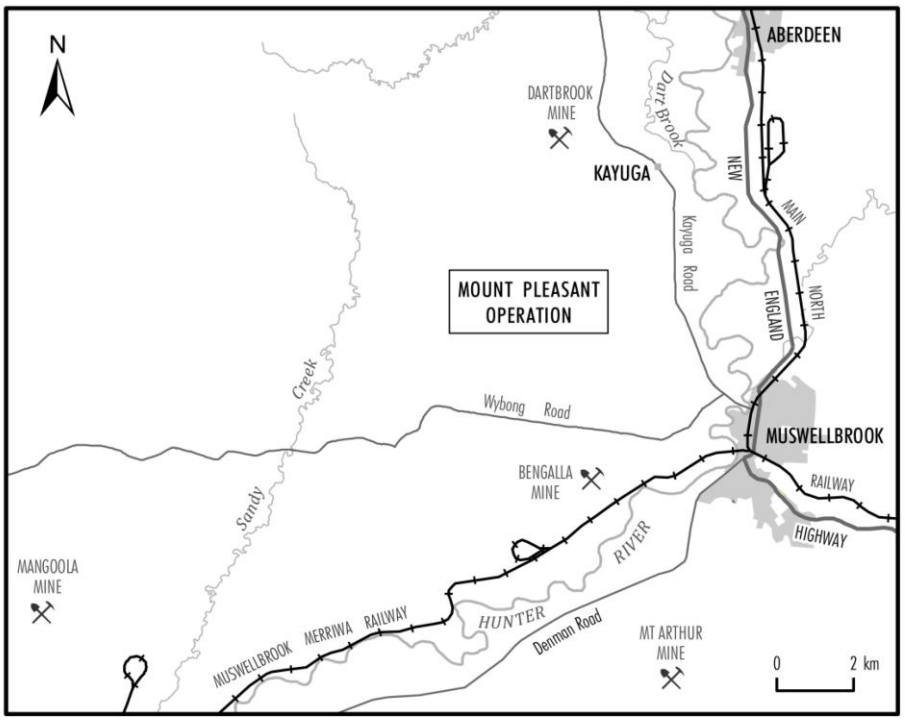
MACH Energy Australia Pty Ltd
C/- Julie Fletcher
Email: [redacted]
Phone: [redacted]

MACH Energy advises that the details of any Aboriginal person or group who registers an interest in the consultation process for the Mount Pleasant Operation will be forwarded to the NSW Office of Environment and Heritage and the Wanaruah Local Aboriginal Land Council in accordance with Section 4.1.5. of the Consultation Guidelines, unless they specify that they do not want their details released.

Yours sincerely,

Chris Lauritzen
General Manager – Resource Development
MACH Energy Australia Pty Ltd

Plan showing 'Area of Interest'



Example of correspondence sent in Stage 1 (Step 4.1.3) of Heritage NSW consultation process[3]:

MACH Energy Australia Pty Ltd

ABN 34 608 495 441

t: +61 8 6141 7100
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

29 May 2017

AGA Services
Adam Sampson
260 Hidden Valley ROW
WYBONG NSW 2333

Dear Adam,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

The Mount Pleasant Operation (MPO) is situated 4km north-west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW).

MACH Energy Australia Pty Limited (MACH Energy) is seeking environmental approvals under the NSW *Environmental Planning and Assessment Act, 1979* and/or Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* for potential future development associated with the approved MPO Development Consent (DA 92/97).

As described below, and due to your previous involvement at the Mount Pleasant Operation, you have been automatically registered for the consultation process. You do not need to contact MACH Energy to re-register.

As part of these environmental approvals, MACH Energy will be preparing an Aboriginal Cultural Heritage Assessment(s), and therefore may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW National Parks and Wildlife Act, 1974 to move and/or destroy Aboriginal objects (or a variation to the existing permits [AHIP #C0002053, #C0002092]). The subject area of the any such application is depicted as the "Area of Interest" as shown on the plan below.

In accordance with the requirements as set out in the Aboriginal cultural heritage consultation requirements for proponents 2010 (NSW Department of Environment, Climate Change and Water, 2010) (Consultation Guidelines) issued by the NSW Office of Environment and Heritage, MACH Energy is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment. This includes:

- Contacting various government organisations and requesting a list of any Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the "Area of Interest".
- Writing to the Aboriginal persons or groups identified by the above process to notify them of the Mount Pleasant Operation and invite them to register an interest in the community consultation process.

[3] Sent to all organisations/individuals previously registered for the MPO and deemed to be registered for this Project.

MACHEnergy

- Placing a notice in a local newspaper and inviting Aboriginal persons or groups to register an interest in the community consultation process.

Due to your previous involvement at the Mount Pleasant Operation, you have been automatically registered for the consultation process. <u>You do not need to contact MACH Energy to re-register.</u>

MACH Energy advises that the details of any Aboriginal person or group who registers an interest in the consultation process for the Mount Pleasant Operation will be forwarded to the NSW Office of Environment and Heritage and the Wanaruah Local Aboriginal Land Council in accordance with Section 4.1.5. of the Consultation Guidelines, unless they specify that they do not want their details released.

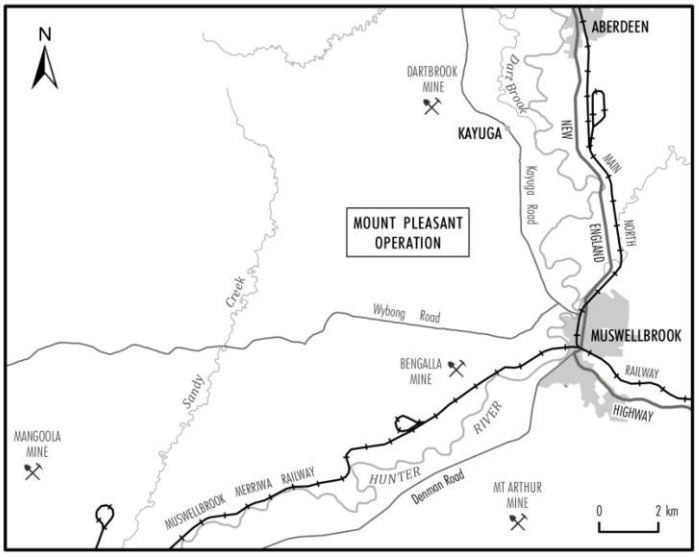
Should you have any queries regarding your registration, please do not hesitate to contact MACH Energy via the following contact details:

MACH Energy Australia Pty Ltd
C/- Julie Fletcher
Email: [redacted]
Phone: [redacted]

Yours sincerely,

Chris Lauritzen
General Manager – Resource Development
MACH Energy Australia Pty Ltd

Plan showing 'Area of Interest'



Responses received in relation to Stage 1 (Steps 4.1.2 and 4.1.3) of Heritage NSW consultation process and media advertisement from Aboriginal parties:

From: Tracey Skene [redacted]
Sent: Tuesday, 9 May 2017 7:03 PM
To: Danielle Wallace
Subject: EOI Mt Pleasant

Good evening Danielle,

I would like to put forward my Expression of interest for Mt Pleasant culture heritage Assessment.

Thanks
Tracey Skene
Culturally Aware
Mobile phone [redacted]

From: Ross Pahuru [Manager@hvabcorp.org.au]
Sent: Tuesday, 9 May 2017 2:13 PM
To: Danielle Wallace
Subject: FW: Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment
Attachments: admin.wanaruah@bigpond.com_20170509_084301.pdf

Hi there

Please kindly put the Hunter Valley Aboriginal Corporation down as a interested party.

We are usually kept informed on this type of notice from Mach Energy however we seem to have slipped through the Gap

We have also recently changed Email addresses,

The Manager is manager@hvabcorp.org.au

Or the office office@hvabcorp.org.au

Can you also amend your records to show this

Kind Regards

Subject: Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment

Good morning,

Mach Energy would like registered Aboriginal parties and cultural knowledge holders to register their interest by contacting:

MACH Energy Australia Pty Ltd
C/-Danielle Wallace
PO Box 379 West Ryde NSW 2114
[redacted]

Please see the attached letter for further details.

Regards
Renee

Renee MacDonald
Administration

Wanaruah Local Aboriginal Land Council

PO Box 127
MUSWELLBROOK NSW 2333

1

From: Wolf [yinarrculturalservices@gmail.com]
Sent: Tuesday, 16 May 2017 3:28 PM
To: Danielle Wallace; Mum; dontminemeay@gmail.com
Subject: Fwd: Yinarr Cultural Services - Expression of Interest - Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment
Attachments: Expression of Interest - Danielle Wallace - MACH Energy Australia Pty Ltd - Expression of Interest - Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment - 15th May 2017.doc; Allianz Workers Compensation.docx; QBE Insurance Public Liability.docx; ATSIC Commissioner Jim Wright NSW East Zone Letter.pdf; Certificate 1 in Aboriginal Languages.pdf; Certificate IV in Training and Assessment Transcript of Academic Record.pdf; Certificate of Achievement Certificate 1 in Aboriginal Languages.pdf; Forklift Licence and White Card.pdf; HVAC Confirmation of Aboriginality Part 2.pdf; HVAC Confirmation of Aboriginality.pdf; Learning Outcomes Aboriginal Site School.pdf; Open 2 Study Certificate of Achievment Climate Change.pdf; Aboriginal Studies Statement of Attainment.pdf; Statement of Attainment Aboriginal Sites School.pdf; Statement of Attainment Certificate IV in Business (Governance).pdf; Statement of Attainment Certificate IV in Training and Assessment.pdf; Statement OHS General Induction for Construction Work in NSW.pdf; WLALC Confirmation of Aboriginality.pdf

---------- Forwarded message ----------
From: **Wolf** <yinarrculturalservices@gmail.com>
Date: Tue, May 16, 2017 at 2:35 PM
Subject: Re: Yinarr Cultural Services - Expression of Interest - Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment
To: [redacted]

Dear Danny,

How are you?, It has been awhile we hope things are good on your end.

Yinarr Cultural Services received notification by email regarding consultation of MACH Energy Australia Pty Ltd - Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment and to contact you regarding consultation.

Please find enclosed Yinarr Cultural Services expression of interest for the above project together with current insurances attached with documents needed for your records.

In regards to the above project we ask if there is any paperwork that needs to be viewed would you be able to mail and email them to Yinarr Cultural Services so we can have time to comment on them please.

If there are any questions or information you may have please do not hesitate in contacting us either by Mobile 0475 436 589 {Leave message if needed), or Email: yinarrculturalservices@gmail.com or dontminemeay@gmail.com.

Would you be able to confirm receipt of this email please. Thank you.

Kind Regards,

Kathie Steward Kinchela
Yinarr Cultural Services
Discover, Preserve, Protect
Encl.

Yinarr Cultural Services
Discover Preserve Protect

15th May 2017

MACH Energy Australia Pty Ltd
C/-Danielle Wallace
PO Box 379,
West Ryde NSW 2114
Mobile: 0414 833 397
Email: [redacted]

Dear Danielle,

RE: Expression of Interest - Mount Pleasant Operations - Aboriginal Cultural Heritage Assessment

Yinarr Cultural services would like to thank you for the invitation to express our interest to be consulted for the above project as well as being consulted and placed on the Aboriginal Stakeholders Register with MACH Energy Australia Pty Ltd also for future works that may arise.

We have pleasure in forwarding the expression of interest for your review as a registered and confirmed original stakeholder as a traditional custodian and native title descendant of country. I do so because I am an original person who continues to recognize and maintain a deep respect for our ancestral belief system, traditional lore and customs my responsibilities and obligations to protect and conserve our culture and heritage for our future generations, I care for my traditional lands and country. I have the trust of my community, knowledge and understanding of my culture.

Kathie is a registered and confirmed original stakeholder and ancestor of the Wanarua and Gamilaraay people. She has been living in the community all her life with many spiritual connections on country and is acknowledged by the original community as such. Yinarr Cultural Services also consists of skilled and experienced traditional cultural heritage site field officers and consultants who hold knowledge of the surrounding areas as to provide protocols and deliver appropriate projects with positive outcomes.

Our handpicked contract and casual team have been involved in various consultation roles and work sites such as:

In-field original archaeological field/site surveys, excavation work, salvage and collection, grader scrapes, test pitting, site surveys and recording grinding grooves, hearths, scared trees, escarpments, caves, shelters, manufacturing sites, travelling routes, Bora and ceremonial grounds, recording and preparing reports for over 20 years now. Our site officer's/consultants are very experienced. Kathie is currently studying Indigenous Archaeology (IA) through UNE and Indigenous Community Management and Development Programs (ICMDP) through Curtin University.

Ms Kathie Kinchela is a very acknowledgeable person who has been involved with numerous fieldwork jobs carried out by Yinarr Cultural Services and numerous other original cultural groups that they have worked for. Some of the fieldwork that Kathie has been involved with include: The Anvil Hill Project, Xstrata Mangoola Coal, Bulga Project, Ashton Coal, Liddell Coal Operations, Bayswater, BHP Mt Arthur, Mt Penny, Xstrata Ravensworth Operations, Muswellbrook Coal, Bulga including Bulga Bridge, Advitech, RMS Black Creek Project, Spur Hill, Widden Creek, Mt Owen, Fitzgerald Bridge Replacement Aberdeen and recently M1 Pacific Motorway Extension to Raymond Terrace.

Kathie has also worked with and alongside various components and archaeologist such as Insite Heritage, Umwelt, Hansen Bailey, GSS Environmental, ENSR/ECOMM, Wells Environmental Services, Coal & Allied, Southeast Archaeology, Hansen & Bailey, AMBS, Heritage Parc McCloygroup, RPS, Penny McCardle, Resource Strategies, Umwelt, Eco Logical Australia, Roads and Maritime Services and Jacobs Australia just to name a few.

Yinarr Cultural Services – ABN: 78 064 952 428 – BRN: BN98421338, Lot 5 Westwood Estate Gungal, NSW 2333,
Mobile: 0475 436 589, Email: yinarrculturalservices@gmail.com, dontminemeay@gmail.com

Yinarr Cultural Services primary vision and aim is to discover, preserve and protect items that are of significance to the Culture and Heritage of the Original people and objects which may be affected to provide appropriate management and to protect the Cultural Heritage of our Ancestors. We would like the opportunity to work with MACH Energy Australia Pty Ltd to give our views on the area to be surveyed where we will comment on specific areas that we believe is significant within the area. In general the Hunter Valley are highly significant and is very sacred to our people and the community, our descendants not only travelled through the various areas but are still in the area today with many stories that have been handed down.

Yinarr Cultural Services workers are dedicated, passionate and active within the community as follows: Community network and partnership, board members and directors of Wanaruah Local Aboriginal Land Council (WLALC), members of Hunter Valley Aboriginal Corporation (HVAC), director, committee member and registered stakeholder with Roads and Maritime Services Hunter Expressway Project, board member of the Aboriginal Community Development Fund (ACDF), committee member of Homeless advisory board etc.

Kathie has completed a training course which was conducted and held by Mr. Glen Morris from National Parks and Wildlife. This involved such things as recognising, identifying and recording of artefacts, completing written reports with fieldwork, investigating assessing and reporting original cultural heritage assessment reports, policies and procedures, draft assessment reports including artefacts found and identified regarding original cultural heritage.

Kathie is both reliable and punctual, always actively involved with all work conducted, Kathie is always keen to learn more and be involved more whenever possible. Kathie will openly admit if she is not sure about something or believe that it is not of their expertise or knowledge but always have input when needed.

Our company is fully insured and registered with Office of Environment and Heritage (OEH). Yinarr Cultural Services site workers have all required PPE, current induction and occupational health and safety white cards. Our employees are very fit and are required to comply with all Occupational Health and Safety and work procedures when working on any site these are our requirements while working with Yinarr Cultural Services. Please find enclosed Yinarr Cultural Services up to date and current business insurances. A copy is also enclosed for your records these are available upon request:

Drivers Licence:
Allianz Workers Compensation:
QBE Insurance Public Liability:
OHS White Card No:



We would also recommend and would like to take part of any artifact analysis or training within this project when work is completed as to provide more insight with other members of the community that want to learn more of their culture and heritage. We believe this to be a crucial learning tool on country within community.

Thank you once again for the opportunity we look forward working with you. Should you wish to discuss any of the information provided please don't hesitate in contacting us on Mobile: 0475 436 589 (Message can be left as we will return your call) or Email: yinarrculturalservices@gmail.com or dontminemeay@gmail.com

Yours in Unity,

Kathie Steward Kinchela
Managing Director
Yinarr Cultural Services
Discover, Preserve, Protect
Encl.

Yinarr Cultural Services – ABN: 78 064 952 428 – BRN: BN98421338, Lot 5 Westwood Estate Gungal, NSW 2333, Mobile: 0475 436 589, Email: yinarrculturalservices@gmail.com, dontminemeay@gmail.com

WARRABINGA

Native Title Claimants Aboriginal Corporation

ICN: 2972 Incorporated in the Corporations (Aboriginal and Torres Strait Islander) Act 2006
PO Box 282
MUDGEE NSW 2850
FAX: 02 4627 8633
EMAIL: info@warrabinga.com.au



1 June 2017

Ms Julie Fletcher
MACH Energy Australia Pty Ltd
Via: [redacted]

Ms Fletcher,

Re: Mount Pleasant Operation Aboriginal Cultural Heritage Assessment.

Please be advised Warrabinga NTCAC would like to register for the Mount Pleasant Operation Aboriginal Cultural Heritage Assessment and be involved in all consultation, meetings and fieldwork.

All correspondence should be emailed to:
info@warrabinga.com.au or posted to the details above.

Kind regards,

Kristen Kerr



Aboriginal & Native Title Corporation Email: valleyelmcorp@bigpond.com
Ph: 0432977178 4 Kennedy St Singleton NSW 2330
ABN: 42289115689

Date: 5th June 2017

To: MACH Energy

Re: Mount Pleasant Operation-Aboriginal Cultural Heritage Assessment.

Attn: Julie Fletcher
Email: [redacted]

Dear Julie

Please register our corporation and involvement in the above said project
Our corporation and members hold cultural knowledge relevant in the area of interest we have been involved in this project now for many years.
If you require any further information please call or email.

Regards

Des Hickey
Director & contact person



Hunter Valley Cultural Surveying
165 Susan St Scone NSW 2337 Luke Hickey manager
Ph: 0435911820 email: microlith99@gmail.com
ABN: 9631450760

Date: 5th June 2017

To: MACH Energy
Ph: 1800886889
Email: [redacted]

Attn: Tessa Bryant Heritage Advisor

Re: Mount Pleasant Operation Aboriginal Cultural Heritage Assessment

Dear Julie

Please register my group in this cultural & heritage project we wish to have an active involvement in the works and consultation.
My group have relevant cultural knowledge in the area of interest
Please call or email if you require any further information.

Regards

Luke Hickey
Manager

Subject: FW: MPO ACHA Correspondence - Amanda Howard

From: Amanda Howard [redacted]
Date: 27 June 2017 at 3:30:42 am GMT+2
To: Julie Fletcher [redacted]
Subject: RE: MPO ACHA Correspondence - Amanda Howard

Hi Julie

Just a quick email to let you know that I would be interested in registering so that I could be a part of the community consultation with Mach Energy, sorry for taking so long in replying to this email.

Thanks



Amanda Howard

Aboriginal Health Liaison Officer | **Upper Hunter Community Health**
The Cottage, Corner Brentwood and Brecht Street Muswellbrook
Tel (02) 6542 2760 | Fax (02) 6542 2001 | [redacted] |
[redacted]
www.health.nsw.gov.au

I would like to acknowledge the Traditional Custodians of the Land that I work on. I would like to pay my respects to our Elders Past and Present and Future.

NSW GOVERNMENT Health
Hunter New England
Local Health District

Subject: FW: Registraion / Mount Pleasant Operation Aboriginal Heritage

From: "Carolyn .H" <cazadirect@live.com>
Date: 3 July 2017 at 3:26:41 am GMT+1
To: [redacted]
Subject: Registraion / Mount Pleasant Operation Aboriginal Heritage

A1 Indigenous Services

Contact: Carolyn
M: 0411650057
E: Cazadirect@live.com
A: 73 Russell St, Emu Plains NSW 2750
ABN: 20 616 970 327

Amanda Hickey Cultural Services
Contact : Amanda Hickey
Address : 73 Russell Street, Emu Plains
Email ; [redacted]
Mobile : [redacted]
ABN : 498 242 132 40

Hi Julie ,
A1 Indigenous Services and **Amanda Hickey Cultural Services** would like to register for consultation and an field work for this project, We hold cultural knowledge of this area.
Insurances Attached.
Thank you
Carolyn Hickey
Amanda Hickey DeZwart

Notifications to OEH (now Heritage NSW) and LALC in relation to Step 4.1.6) of Heritage NSW consultation process:

MACH Energy Australia Pty Ltd
ABN 34 608 495 441
t: +61 8 6141 7100
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

6 July 2017

Office of Environment and Heritage
Locked Bag 1002
DANGAR NSW 2309

Attention: Nicole Davis, Archaeologist – Planning

Dear Nicole,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

In accordance with the New South Wales (NSW) Office of Environment and Heritage (OEH) policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW], 2010) a list of Registered Aboriginal Parties that registered an interest in the community consultation process with MACH Energy Pty Ltd for the Mount Pleasant Operation is provided in Enclosure A.

Copies of the notification letters sent to Aboriginal stakeholders and the public notice published in accordance with Section 4.1.6 of the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) are provided in Enclosures B and C respectively.

Yours sincerely,

Chris Lauritzen
General Manager - Resources Development
Mount Pleasant Operation

Enclosure A: *Registered Aboriginal Parties for the Mount Pleasant Operation*
Enclosure B: *Correspondence sent to Aboriginal Stakeholders*
Enclosure C: *Public Notice*

ENCLOSURE A

REGISTERED ABORIGINAL PARTIES FOR THE MOUNT PLEASANT OPERATION

Table A-1
Registered Aboriginal Parties for the Mount Pleasant Operation

Registered Aboriginal Parties		
Aboriginal Native Title Consultants		Kayaway Eco-Cultural and Heritage Services
AGA Services		KL.KG Saunders Trading Services
Aliera French Trading		L.J Culture Management
Amanda Hickey Cultural Services		Lower Hunter Aboriginal Corporation
Barry & Colleen Stair		Lower Hunter Aboriginal Incorporated
Bawurra Consultants		Lower Hunter Wonnarua Council Inc.
Bigundi Biame Traditional People		Lower Wonnarua Tribal Consultancy Pty Ltd
BJC Cultural Management		Luke Cameron Culture Management
Breeza Plains Culture and Heritage Consultants		Marvonia Welsh
Buda Mada Koori Womens Aboriginal Corporation		ME Griffiths Cultural Management
Bunda Consultants		Michele Stair
Cacatua General Services		Mingga Consultants
Carrawonga		Moreeites
Chantae Griffiths		Murrawan Cultural Consultants
Clifford Johnson		Muswellbrook Culture Consultants
Crimson-Rosie		My Land Cultural Heritage
Culturally Aware		Plains Clans of the Wonnarua People Registered Native Title Claim
Deslee Talbot Consultant		Roger Noel Matthews
DFTV Enterprises		Smith Dhagaans Cultural Group
Divine Diggers Aboriginal Cultural Consultants		T & G Culture Consultants
DRM Cultural Management		Tocomwall Pty Ltd
Esther Tighe		Ungooroo Aboriginal Corporation
Fiona Draper		Ungooroo Cultural & Community Services Inc
Galamaay Consultant		Upper Hunter Heritage Consultants
Gidawaa Walang Cultural Heritage Consultancy		Upper Hunter Natural and Cultural Resources Management
Gina Field		Upper Hunter Wonnarua Council Incorporated
Giwiirr Consultants		Valley Culture
Gomeroi Murri Ganuurr Yuuray Wadi Palinka		Valley ELM Corp
Gomeroi Namoi Traditional Owners		Waabi Gabinya Cultural Consultancy
Gomery Cultural Consultants		Wallangan Cultural Services
Hazel Collins		Wanaruah Aboriginal Custodians Corporation
HECMO Consultants		Wanaruah Local Aboriginal Lands Council
HTO Environmental Management Services		Warrabinga Native Title Claimants Aboriginal Corporation
Hunter Valley Aboriginal Corporation		Warren Taggart
Hunter Valley Cultural Consultants		Wattaka Wonnarua Cultural Consultants Service
Hunter Valley Cultural Surveying		Widescope Indigenous Group Pty Ltd
Hunter Valley Traditional Owner Environmental Management Services		Wonnarua Culture and Heritage
I & E Aboriginal Culture and Heritage		Wonnarua Culture Heritage
Jarban & Mugrebea		Wonnarua Elders Council Inc.
JLC Cultural Services		Wonnarua Nation Aboriginal Corporation
Jumbunna Traffic Management Group Pty Ltd		Wonnarua Traditional Custodians
Kauwul (Wonn 1)		Yarrawalk Enterprises
Kawul Cultural Services		Yinarr Cultural Services
Amanda Howard		A1 Indigenous Cultural Services

MACH Energy Australia Pty Ltd

ABN 34 608 495 441

t: +61 8 6141 7100
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

6 July 2017

Wanaruah Local Aboriginal Land Council
PO Box 127
MUSWELLBROOK NSW 2333

Attention: Noel Downs, CEO

Dear Noel,

RE: MOUNT PLEASANT OPERATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

In accordance with the New South Wales (NSW) Office of Environment and Heritage (OEH) policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW], 2010) a list of Registered Aboriginal Parties that registered an interest in the community consultation process with MACH Energy Pty Ltd for the Mount Pleasant Operation is provided in Enclosure A.

Copies of the notification letters sent to Aboriginal stakeholders and the public notice published in accordance with Section 4.1.6 of the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) are provided in Enclosures B and C respectively.

Yours sincerely,



Chris Lauritzen
General Manager - Resources Development
Mount Pleasant Operation

Enclosure A: *Registered Aboriginal Parties for the Mount Pleasant Operation*
Enclosure B: *Correspondence sent to Aboriginal Stakeholders*
Enclosure C: *Public Notice*

ENCLOSURE A

REGISTERED ABORIGINAL PARTIES FOR THE MOUNT PLEASANT OPERATION

Table A-1
Registered Aboriginal Parties for the Mount Pleasant Operation

Registered Aboriginal Parties		
Aboriginal Native Title Consultants		Kayaway Eco-Cultural and Heritage Services
AGA Services		KL.KG Saunders Trading Services
Aliera French Trading		L.J Culture Management
Amanda Hickey Cultural Services		Lower Hunter Aboriginal Corporation
Barry & Colleen Stair		Lower Hunter Aboriginal Incorporated
Bawurra Consultants		Lower Hunter Wonnarua Council Inc.
Bigundi Biame Traditional People		Lower Wonnarua Tribal Consultancy Pty Ltd
BJC Cultural Management		Luke Cameron Culture Management
Breeza Plains Culture and Heritage Consultants		Marvonia Welsh
Buda Mada Koori Womens Aboriginal Corporation		ME Griffiths Cultural Management
Bunda Consultants		Michele Stair
Cacatua General Services		Mingga Consultants
Carrawonga		Moreeites
Chantae Griffiths		Murrawan Cultural Consultants
Clifford Johnson		Muswellbrook Culture Consultants
Crimson-Rosie		My Land Cultural Heritage
Culturally Aware		Plains Clans of the Wonnarua People Registered Native Title Claim
Deslee Talbot Consultant		Roger Noel Matthews
DFTV Enterprises		Smith Dhagaans Cultural Group
Divine Diggers Aboriginal Cultural Consultants		T & G Culture Consultants
DRM Cultural Management		Tocomwall Pty Ltd
Esther Tighe		Ungooroo Aboriginal Corporation
Fiona Draper		Ungooroo Cultural & Community Services Inc
Galamaay Consultant		Upper Hunter Heritage Consultants
Gidawaa Walang Cultural Heritage Consultancy		Upper Hunter Natural and Cultural Resources Management
Gina Field		Upper Hunter Wonnarua Council Incorporated
Giwiirr Consultants		Valley Culture
Gomeroi Murri Ganuurr Yuuray Wadi Palinka		Valley ELM Corp
Gomeroi Namoi Traditional Owners		Waabi Gabinya Cultural Consultancy
Gomery Cultural Consultants		Wallangan Cultural Services
Hazel Collins		Wanaruah Aboriginal Custodians Corporation
HECMO Consultants		Wanaruah Local Aboriginal Lands Council
HTO Environmental Management Services		Warrabinga Native Title Claimants Aboriginal Corporation
Hunter Valley Aboriginal Corporation		Warren Taggart
Hunter Valley Cultural Consultants		Wattaka Wonnarua Cultural Consultants Service
Hunter Valley Cultural Surveying		Widescope Indigenous Group Pty Ltd
Hunter Valley Traditional Owner Environmental Management Services		Wonnarua Culture and Heritage
I & E Aboriginal Culture and Heritage		Wonnarua Culture Heritage
Jarban & Mugrebea		Wonnarua Elders Council Inc.
JLC Cultural Services		Wonnarua Nation Aboriginal Corporation
Jumbunna Traffic Management Group Pty Ltd		Wonnarua Traditional Custodians
Kauwul (Wonn 1)		Yarrawalk Enterprises
Kawul Cultural Services		Yinarr Cultural Services
Amanda Howard		A1 Indigenous Cultural Services

Example of correspondence sent in Steps 4.2 and 4.3 of Heritage NSW consultation process (provision of draft heritage assessment methodology and project information)[4]:

MACH Energy Australia Pty Ltd

ABN 34 608 495 441

t: +61 8 6141 7100
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

9 October 2019

Dear Registered Aboriginal Stakeholder,

RE: MOUNT PLEASANT OPERATION – MOUNT PLEASANT OPTIMISATION PROJECT ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

The Mount Pleasant Operation is an open cut coal mine and associated infrastructure, located approximately 3 kilometres (km) north west of Muswellbrook in the Upper Hunter Valley of New South Wales (NSW).

MACH Energy is preparing a State Significant Development (SSD) application to the NSW Minister for Planning under Division 4.1 of Part 4, 'State Significant Development', of the NSW EP&A Act for the Mount Pleasant Optimisation Project (the Project). The Project proposes extraction of additional coal reserves within the approved Mining Leases (MLs) and an increase in the rate of coal extraction.

As part of the SSD application, MACH Energy has commissioned South East Archaeology to prepare an Aboriginal Cultural Heritage Assessment. Please find enclosed for your review, a copy of the Proposed Methodology for the Aboriginal Cultural Heritage Assessment(s) for the proposed SSD Project.

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010), we have provided the Proposed Methodology for your review and feedback. Your feedback may include the identification of issues or areas of cultural significance that may be used to affect, inform or refine the Proposed Methodology.

If you wish to provide input on the following, please make a submission to MACH Energy (via the contact details provided at the end of this letter) by **5:00 pm Monday 11 November 2019**:

- The nature of the proposed methodology.
- Any Aboriginal objects or places of cultural value within the investigation area, or issues of cultural significance that you are aware of.
- Any restrictions or protocols you may consider necessary in relation to any information of sensitivity that you may provide.
- Any other factors you consider to be relevant to the heritage assessment.

All comments received will be taken into consideration as the methodology is finalised.

[4] Sent to all Registered Aboriginal Parties.

MACHEnergy

To assist with the provision of comments, MACH Energy will hold an information session on 5 November 2019. All Registered Aboriginal Parties are invited to attend this information session, however attendance is not compulsory. Details regarding the information session are as follows:

Date: 5 November 2019
Time: 10:00 – 12:00
Location: Mount Pleasant Operation Site Office (accessible from the mine access road via Wybong Road)

MACH Energy would appreciate any comments you would like to make on the enclosed Proposed Methodology by **5:00 pm Monday 11 November 2019**. Please provide any comments via the following contact details:

MACH Energy Australia Pty Ltd
C/- Chloe Annandale
Email: [redacted]

If you require any further information, please phone the Mount Pleasant Operation hotline on 1800 886 889.

Yours sincerely,

Chris Lauritzen
General Manager - Resources Development
Mount Pleasant Operation

Responses received from Registered Aboriginal Parties in relation to Steps 4.2 and 4.3 of Heritage NSW consultation process (provision of draft heritage assessment methodology and project information):

Subject: FW: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

---

From: Manager <Manager@hvabcorp.org.au>
Sent: Thursday, 10 October 2019 11:39 AM
To: Chloe Annandale [redacted]
Subject: RE: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

Hi Chloe,

Rhonda Griffiths of HVAC will be attending the meeting on the 5th November, 2019.

Regards

Kylie

Kylie Pascoe | Manager

Hunter Valley Aboriginal Corporation
Ph: (02)6543 1180
M: 0439 918 992
180 – 182 Bridge Street, Muswellbrook NSW 2333
E: manager@hvabcorp.org.au

From: Chloe Annandale [redacted]
Sent: Thursday, 10 October 2019 8:34 AM
Subject: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the Aboriginal Cultural Heritage Assessment (ACHA) Proposed Methodology for the Mount Pleasant Optimisation Project, along with a copy of the Proposed Methodology prepared by South East Archaeology.

If you require any further information, please do not hesitate to contact MACH Energy on 1800 886 889.

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

Subject: FW: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

From: Admin <admin@ungooroo.com.au>
Sent: Thursday, 10 October 2019 10:50 AM
To: Chloe Annandale [redacted]
Subject: RE: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

Good Morning Chloe,

I am emailing you on behalf of Ungooroo Aboriginal Corporation & our Representative Mr Allen Paget to register in the Information Session held 5th November 2019.

UNGOOROO ABORIGINAL CORPORATION

Kind Regards
Melanie Schulz
MEDICAL ADMINISTRATION SERVICE COORDINATOR

PHONE 02 6571 5111
FAX 02 6571 5777
EMAIL admin@ungooroo.com.au

POST
PO Box 3095,
Singleton NSW 2330

WEB www.ungooroo.com.au
WUPA www.wupaatwanaruah.com.au
DOOKAL www.dookalclothing.com.au

LOCATION
157-159 John Street,
Shop 1-4,
The Singleton Business Centre,
Singleton NSW 2330

Accredited General Practice

Ungooroo Aboriginal Corporation acknowledges Aboriginal and Torres Strait Islander people as the Traditional Owners. We would like to acknowledge the Traditional Owners of our area, the Wanaruah People.
We pay our respect to the elders past, present and future for they hold the memories, traditions, culture and hope of Indigenous peoples in Australia.

From: "Chloe Annandale" [redacted]
Subject: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the Aboriginal Cultural Heritage Assessment (ACHA) Proposed Methodology for the Mount Pleasant Optimisation Project, along with a copy of the Proposed Methodology prepared by South East Archaeology.

If you require any further information, please do not hesitate to contact MACH Energy on 1800 886 889.

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

Subject: FW: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

From: Laurie Perry [redacted]
Sent: Thursday, 10 October 2019 8:47 AM
To: Chloe Annandale [redacted]
Subject: RE: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

Hi Chloe

Thank You

Received

Cheers

Laurie Perry
CEO - Wonnarua Nation Aboriginal Corporation
Ground Floor 254 John St Singleton NSW
PO BOX 3066
Singleton Delivery Centre 2330
Ph : (02) 6571 8595
Fax : (02) 6545 2099
Mob : [redacted]
enquiries@wonnarua.org.au
[redacted]
www.wonnarua.org.au

From: Chloe Annandale [redacted]
Sent: Thursday, 10 October 2019 8:34 AM
Subject: Mount Pleasant Operation - Aboriginal Cultural Heritage Assessment Proposed Methodology Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the Aboriginal Cultural Heritage Assessment (ACHA) Proposed Methodology for the Mount Pleasant Optimisation Project, along with a copy of the Proposed Methodology prepared by South East Archaeology.

If you require any further information, please do not hesitate to contact MACH Energy on 1800 886 889.

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd

1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

MACHEnergy
Mount Pleasant Operation

Example of correspondence sent in Steps 4.3 and 4.4 of Heritage NSW consultation process regarding provision of draft Aboriginal Cultural Heritage Assessment Report for comment[5]:

From: Chloe Annandale [redacted]
Sent: Wednesday, 19 August 2020 4:04 PM
Subject: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the draft Aboriginal Cultural Heritage Assessment prepared by South East Archaeology for the Mount Pleasant Optimisation Project.

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

MACHEnergy
Mount Pleasant Operation

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[5] Sent to all Registered Aboriginal Parties.

MACH Energy Australia Pty Ltd
PO Box 2115, Dangar NSW 2309
ABN 34 608 495 441

t: +61 2 5517 1150
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

19 August 2020

Dear Registered Aboriginal Stakeholder,

RE: MOUNT PLEASANT OPTIMISATION PROJECT – DRAFT ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT AND INFORMATION SESSION

As you would be aware, MACH[1] is preparing a State Significant Development (SSD) application to the New South Wales (NSW) Minister for Planning under Division 4.1 of Part 4, 'State Significant Development', of the NSW *Environment Planning and Assessment Act, 1979* for the Mount Pleasant Optimisation Project (the Project). The Secretary's Environmental Assessment Requirements (SEARs) for the Project Environmental Impact Statement (EIS) were issued by the Department of Planning and Environment (DPIE) on 17 February 2020.

Please find enclosed for your review, a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the Mount Pleasant Optimisation Project (the Project).

If you have received this letter via post, note the enclosed hard copy only includes the main text of the draft ACHA due to a large document size. Appendices of the report can be downloaded from the enclosed USB. Please contact MACH (via the contact details provided at the end of this letter) if you wish to request a hard copy of the appendices, or would prefer a digital copy be emailed to you.

If you have received this letter via email, the full draft ACHA can be downloaded from the following link: Full Draft ACHA

Review of Draft Aboriginal Cultural Heritage Assessment

In accordance with the NSW *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010), we have provided the draft ACHA for your review and feedback. Your feedback may include the identification of issues or areas of cultural significance that may inform or refine the draft ACHA.

Please provide comments to MACH (via the contact details provided at the end of this letter) by **5:00 pm Wednesday 23 September 2020** if you wish to provide input on the following:

- Identification of issues.
- Any Aboriginal objects or places of cultural value within the investigation area, or issues of cultural significance, that you are aware of.
- Any restrictions or protocols you may consider necessary in relation to any information of sensitivity that you may provide.
- Any other factors you consider to be relevant to the heritage assessment.

All comments received will be taken into consideration as the ACHA is finalised. Any feedback with respect to the draft ACHA is requested by **5.00 pm Wednesday 23 September 2020**.

Information Session

As part of the review process for the draft ACHA, MACH would like to offer all Registered Aboriginal Parties (RAPs) the opportunity to participate in an information session regarding the draft ACHA. The purpose of the information session is to discuss the key findings of the draft ACHA and to provide an opportunity for RAPs to discuss, ask questions and/or provide comment on the draft ACHA, particularly the cultural significance and proposed management measures. Representatives from the consulting archaeologist and MACH will also participate in the information session.

[1] MACH Mount Pleasant Operations Pty Ltd is the manager of the Mount Pleasant Operation as agent for and on behalf of the unincorporated Mount Pleasant Joint Venture between MACH Energy Australia Pty Ltd (MACH Energy) (95 per cent [%] owner) and J.C.D. Australia Pty Ltd (5% owner). This letter refers to MACH Mount Pleasant Operations Pty Ltd and the unincorporated Mount Pleasant Joint Venture as MACH.

MACHEnergy

Due to current restrictions associated with Coronavirus (COVID-19) that limit the number of people that can meet in one room, the information session will occur via video/teleconference. The video/teleconference will take place at **1.00 pm on Wednesday 2 September 2020**. Please note that MACH will not be paying for participation in the video/teleconference. Dial-in details are provided below:

Join via PC, laptop, tablet or mobile: Please request the meeting link (via the contact details below)
Join via phone: +61 2 7208 4737
Conference ID: 331 105 119#

Please note the following with respect to the video/teleconference:

- Once connected, the meeting has been set up to default to audio only, however the presentation will still be shared to your screen.
- Once connected, the meeting has been set up to mute your audio, however you will be able to turn on your audio at any time.
- If you would like others to see your face (and where your internet connection allows), you will be able to turn on video.
- If you would like to view the presentation on your computer screen and talk on a separate phone, please select "Audio off" prior to joining the meeting on your computer.
- If you are joining via phone, please dial the above number and follow the instructions on the call.

Please note that if you do not participate in the information session, you will still be involved for the remainder of the consultation process and assessment.

Feedback Period

Should you wish to provide feedback on the draft ACHA please advise MACH via the following contact details by **5.00 pm Wednesday 23 September 2020**:

MACH Energy Pty Ltd
PO Box 2115,
Dangar West NSW 2309
Phone: [redacted]
Email: [redacted]

Site Inspection

MACH will continue to monitor the situation and restrictions around COVID-19 and, when it is deemed safe to do so, will also offer RAPs the opportunity for a site inspection at the Mount Pleasant Operation. Please note that photos of the newly recorded Aboriginal cultural heritage sites identified during the field survey for the draft ACHA are provided in Appendix 5.

Yours sincerely,



Chris Lauritzen
General Manager - Resources Development
Mount Pleasant Operation

Aboriginal Native Title Consultants
John & Margaret Matthews
4 Calgaroo Avenue
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49429 60048 50996

Carrawonga
Justin Matthews
4 Calgaroo Avenue
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49429 70048 50993

KL.KG Saunders Trading Services
Krystal Saunders
20 Ruderford Road
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49429 80048 50990

Bawurra Consultants
Kevin Sampson
1 Martin Street
BREEZA NSW 2381
Lift and peel Sender to keep 02 07006 49429 90048 50997

Luke Cameron Cultural Management
Luke Cameron
28 Herbert Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 02 07006 49430 00048 50990

ME Griffiths Cultural Management
Marie-Ellen Griffiths
10 Herbert Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 02 07006 49428 10048 50992

Marvonia Welsh
1 Yabsley Avenue
MARRICKVILLE NSW 2204
Lift and peel Sender to keep 02 07006 49428 20048 50999

Michele Stair
8 Fitzgerald Avenue
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49428 30048 50996

Upper Hunter Wonnarua Council Incorporated
Rhoda Perry
PO Box 184
SINGLETON NSW 2330
Lift and peel Sender to keep 02 07006 49428 40048 50993

Ungooroo Cultural & Community Services Inc
Rhonda Ward
8 Blaxland Avenue
SINGLETON NSW 2330
Lift and peel Sender to keep 02 07006 49428 50048 50990

Hunter Valley Traditional Owner Environmental Management Services
Rick Coles
PO Box 1042
SINGLETON NSW 2330
Lift and peel Sender to keep 02 07006 49428 60048 50997

Roger Noel Matthews
3 Nowland Street
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49428 70048 50994

Warrabinga Native Title Claimants Aboriginal Corporation
Kristen Kerr
PO Box 282
MUDGEE NSW 2850
Lift and peel Sender to keep 02 07006 49428 80048 50991

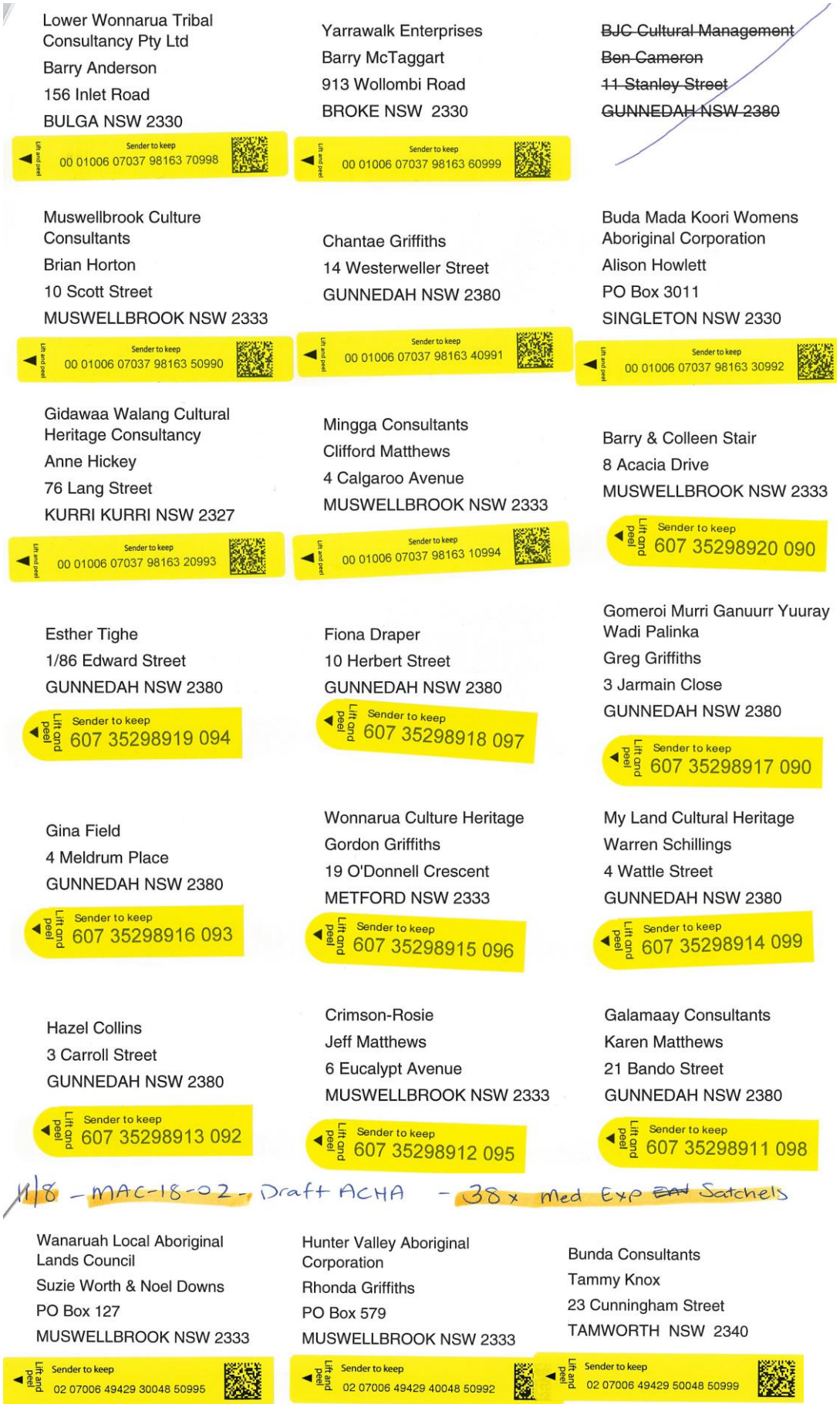
Breeza Plains Culture and Heritage Consultants
Terry Matthews
396 Armidale Road
TAMWORTH NSW 2340
Lift and peel Sender to keep 02 07006 49428 90048 50998

T & G Culture Consultants
Tony Griffiths
19 O'Donnell Crescent
METFORD NSW 2333
Lift and peel Sender to keep 02 07006 49429 20048 50998

Murrawan Cultural Consultants
Robert Smith
33 Clift Street
HEDDON GRETA NSW 2321
Lift and peel Sender to keep 00 01006 07037 98164 00992

Divine Diggers Aboriginal Cultural Consultants
Deidre Perkins
6 Ashleigh Street
HEDDON GRETA NSW 2321
Lift and peel Sender to keep 00 01006 07037 98163 90996

Wonnarua Nation Aboriginal Corporation
Laurie Perry
PO Box 3066
SINGLETON NSW 2330
Lift and peel Sender to keep 00 01006 07037 98163 80997



Lower Wonnarua Tribal Consultancy Pty Ltd
Barry Anderson
156 Inlet Road
BULGA NSW 2330
Sender to keep 00 01006 07037 98163 70998

Yarrawalk Enterprises
Barry McTaggart
913 Wollombi Road
BROKE NSW 2330
Sender to keep 00 01006 07037 98163 60999

~~BJC Cultural Management~~
~~Ben Cameron~~
~~11 Stanley Street~~
~~GUNNEDAH NSW 2380~~

Muswellbrook Culture Consultants
Brian Horton
10 Scott Street
MUSWELLBROOK NSW 2333
Sender to keep 00 01006 07037 98163 50990

Chantae Griffiths
14 Westerweller Street
GUNNEDAH NSW 2380
Sender to keep 00 01006 07037 98163 40991

Buda Mada Koori Womens Aboriginal Corporation
Alison Howlett
PO Box 3011
SINGLETON NSW 2330
Sender to keep 00 01006 07037 98163 30992

Gidawaa Walang Cultural Heritage Consultancy
Anne Hickey
76 Lang Street
KURRI KURRI NSW 2327
Sender to keep 00 01006 07037 98163 20993

Mingga Consultants
Clifford Matthews
4 Calgaroo Avenue
MUSWELLBROOK NSW 2333
Sender to keep 00 01006 07037 98163 10994

Barry & Colleen Stair
8 Acacia Drive
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 607 35298920 090

Esther Tighe
1/86 Edward Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298919 094

Fiona Draper
10 Herbert Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298918 097

Gomeroi Murri Ganuurr Yuuray Wadi Palinka
Greg Griffiths
3 Jarmain Close
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298917 090

Gina Field
4 Meldrum Place
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298916 093

Wonnarua Culture Heritage
Gordon Griffiths
19 O'Donnell Crescent
METFORD NSW 2333
Lift and peel Sender to keep 607 35298915 096

My Land Cultural Heritage
Warren Schillings
4 Wattle Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298914 099

Hazel Collins
3 Carroll Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298913 092

Crimson-Rosie
Jeff Matthews
6 Eucalypt Avenue
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 607 35298912 095

Galamaay Consultants
Karen Matthews
21 Bando Street
GUNNEDAH NSW 2380
Lift and peel Sender to keep 607 35298911 098

11/8 - MAC-18-02 - Draft ACHA - 38 x Med Exp ~~Env~~ Satchels

Wanaruah Local Aboriginal Lands Council
Suzie Worth & Noel Downs
PO Box 127
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49429 30048 50995

Hunter Valley Aboriginal Corporation
Rhonda Griffiths
PO Box 579
MUSWELLBROOK NSW 2333
Lift and peel Sender to keep 02 07006 49429 40048 50992

Bunda Consultants
Tammy Knox
23 Cunningham Street
TAMWORTH NSW 2340
Lift and peel Sender to keep 02 07006 49429 50048 50999

From: Chloe Annandale [redacted]
Sent: Thursday, 17 September 2020 2:51 PM
Subject: FW: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation
Attachments: ltr - Mount Pleasant Optimisation Project Draft ACHA (RES01041982-003).pdf

Dear Registered Aboriginal Stakeholder,

Further to the below, this is a courtesy email reminding you that feedback on the draft Aboriginal Cultural Heritage Assessment (ACHA) provided to you on 19 August 2020 should be provided to MACH by **5:00 pm Wednesday 23 September 2020** (next Wednesday).

Should you wish to provide feedback on the draft ACHA, please advise MACH via the following contact details:

MACH Energy Pty Ltd
PO Box 2115,
Dangar West NSW 2309 Phone: 0407 784 554
Email: [redacted]

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

MACHEnergy
Mount Pleasant Operation

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From: Chloe Annandale [redacted]
Sent: Wednesday, 19 August 2020 4:04 PM
Subject: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

MACH Energy Australia Pty Ltd
PO Box 2115, Dangar NSW 2309
ABN 34 608 495 441

t: +61 2 5517 1150
e: info@machenergyaustralia.com.au
www.machenergyaustralia.com.au

2 October 2020

Dear Kathleen Steward-Kinchela (Yinarr Cultural Services),

RE: MOUNT PLEASANT OPTIMISATION PROJECT – DRAFT ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

As you would be aware, MACH[1] is preparing a State Significant Development (SSD) application to the New South Wales (NSW) Minister for Planning under Division 4.1 of Part 4, 'State Significant Development', of the NSW *Environment Planning and Assessment Act, 1979* for the Mount Pleasant Optimisation Project (the Project). The Secretary's Environmental Assessment Requirements (SEARs) for the Project Environmental Impact Statement (EIS) were issued by the Department of Planning, Industry and Environment (DPIE) on 17 February 2020.

In accordance with the NSW *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010), we provided a draft of the Aboriginal Cultural Heritage Assessment (ACHA) for your review and feedback on 19 August 2020 via the email address you provided to MACH upon your registration as a Registered Aboriginal Party (RAP).

Although the review period of the draft ACHA closed at 5:00 pm Wednesday 23 September 2020, we have subsequently identified that your registered email address is no longer valid. Accordingly, we anticipate you may have not received the draft ACHA via email and therefore provide a hard copy of the draft ACHA enclosed.

Note the enclosed hard copy only includes the main text of the draft ACHA due to a large document size. Appendices of the report can be downloaded from the enclosed USB. Please contact MACH (via the contact details provided at the end of this letter) if you wish to request a hard copy of the appendices, or would prefer a digital copy be emailed to you.

Review of Draft Aboriginal Cultural Heritage Assessment

Your feedback may include the identification of issues or areas of cultural significance that may inform or refine the draft ACHA.

As noted above, the draft ACHA review period closed at 5:00 pm Wednesday 23 September 2020. Therefore, please provide comments to MACH (via the contact details provided at the end of this letter) **at your earliest convenience** if you wish to provide input on the following:

- Identification of issues.
- Any Aboriginal objects or places of cultural value within the investigation area, or issues of cultural significance, that you are aware of.
- Any restrictions or protocols you may consider necessary in relation to any information of sensitivity that you may provide.
- Any other factors you consider to be relevant to the heritage assessment.

Any comments received will be taken into consideration by MACH. As the draft ACHA review period closed, whether any comments you provide can be considered in the finalisation of the draft ACHA will be determined by the timing of report finalisation by South East Archaeology. It is anticipated the report will be finalised in November 2020.

Information Session

Note the information session for the draft ACHA was undertaken on 2 September 2020 (during the review period of the draft ACHA). However, should you wish to ask questions regarding the key findings of the draft ACHA or the Project, we would be happy to facilitate any discussions with the representative from the consulting archaeologist.

[1] MACH Mount Pleasant Operations Pty Ltd is the manager of the Mount Pleasant Operation as agent for and on behalf of the unincorporated Mount Pleasant Joint Venture between MACH Energy Australia Pty Ltd (MACH Energy) (95 per cent [%] owner) and J.C.D. Australia Pty Ltd (5% owner). This letter refers to MACH Mount Pleasant Operations Pty Ltd and the unincorporated Mount Pleasant Joint Venture as MACH.

MACHEnergy

Feedback

Should you wish to provide feedback on the draft ACHA or have any queries regarding the Project, please advise MACH via the following contact details **at your earliest convenience**:

MACH Energy Pty Ltd
PO Box 2115,
Dangar West NSW 2309
Phone: [redacted]
Email: [redacted]

Site Inspection

MACH will continue to monitor the situation and restrictions around COVID-19 and, when it is deemed safe to do so, will also offer RAPs the opportunity for a site inspection at the Mount Pleasant Operation. Please note that photos of the newly recorded Aboriginal cultural heritage sites identified during the field survey for the draft ACHA are provided in Appendix 5.

Yours sincerely,



Chris Lauritzen
General Manager - Resources Development
Mount Pleasant Operation

Additional relevant correspondence and responses received from Registered Aboriginal Parties in relation to draft Aboriginal Cultural Heritage Assessment Report:

From: Laurie Perry [redacted]
Sent: Thursday, 20 August 2020 7:52 AM
To: Chloe Annandale [redacted]
Subject: RE: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi Chloe

Received

Cheers

Laurie Perry
Chief Executive Officer
Wonnarua Nation Aboriginal Corporation
T 02 6571 8595 [redacted]
Ground Floor 254 John St Singleton NSW 2330
https://www.wonnarua.org.au
PO BOX 3066 Singleton Delivery Centre 2330

From: Chloe Annandale
Sent: Wednesday, 19 August 2020 4:04 PM
Subject: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the draft Aboriginal Cultural Heritage Assessment prepared by South East Archaeology for the Mount Pleasant Optimisation Project.

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

MACHEnergy
Mount Pleasant Operation

From: Chloe Annandale [redacted]
Sent: Friday, 21 August 2020 12:57 PM
To: Manager
Subject: RE: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi Kylie,

Thank you for the RSVP. Please find the meeting details as follows.

If you are joining via PC, laptop, tablet or mobile, please click on the 'Join Microsoft Teams Meeting' link below at **1 pm on Wednesday 2 September 2020** to join the meeting via videoconference.

Please note you do not require a Microsoft Teams account to join the meeting. Information regarding how to join the meeting without a Teams account is available here.

If you would like to join via phone instead, please dial **02 7208 4737** at **1 pm on Wednesday 2 September 2020** to join the meeting, and follow the instructions on the call (the conference ID is: 331 105 119#).

Join Microsoft Teams Meeting
+61 2 7208 4737 Australia, Sydney (Toll)
Conference ID: 331 105 119#
Local numbers | Reset PIN | Learn more about Teams | Meeting options

---

If you require further information on how to join the meeting, please do not hesitate to contact me.

Thanks,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

MACHEnergy
Mount Pleasant Operation

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From: Manager <Manager@hvabcorp.org.au>
Sent: Friday, 21 August 2020 11:09 AM

To: Chloe Annandale [redacted]
Subject: Re: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi Chloe,

I hope this email find you well. Thank you for the draft ACHA, could you please send me the link for the meeting on the 2nd of September for video conference.

Regards,

Kylie Pascoe | Manager

Hunter Valley Aboriginal Corporation
Ph: (02) 6543 1180
M: [redacted]
180 – 182 Bridge Street, Muswellbrook NSW 2333
E: manager@hvabcorp.org.au

The Hunter Valley Aboriginal Corporation acknowledges the traditional owners and knowledge holders of the land, the Wanaruah peoples. We pay our respect to the peoples and Elders past, present and future.

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On 19 Aug 2020, at 4:04 pm, Chloe Annandale [redacted] wrote:

<ltr - Mount Pleasant Optimisation Project Draft ACHA (RES01041982-003).pdf>

From: Chloe Annandale [redacted]
Sent: Friday, 28 August 2020 12:10 PM
To: Carolyn .H
Subject: RE: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi Carolyn,

Thank you for registering your interest to attend the information session for the Mount Pleasant Optimisation Project draft Aboriginal Cultural Heritage Assessment (ACHA) on Wednesday 2 September 2020 at 1pm.

If you are joining via PC, laptop, tablet or mobile, please click on the 'Join Microsoft Teams Meeting' link below at **1 pm on Wednesday 2 September 2020** to join the meeting via videoconference.

Please note you do not require a Microsoft Teams account to join the meeting. Information regarding how to join the meeting without a Teams account is available here.

If you would like to join via phone instead, please dial **02 7208 4737** at **1 pm on Wednesday 2 September 2020** to join the meeting, and follow the instructions on the call (the conference ID is: 331 105 119#).

Join Microsoft Teams Meeting
+61 2 7208 4737 Australia, Sydney (Toll)
Conference ID: 331 105 119#
Local numbers | Reset PIN | Learn more about Teams | Meeting options

---

If you require further information on how to join a meeting, please do not hesitate to contact me on [redacted]

Thanks,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

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From: Carolyn .H <cazadirect@live.com>
Sent: Sunday, 23 August 2020 6:16 PM
To: Chloe Annandale [redacted]
Subject: Re: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

A1 INDIGENOUS SERVICES PTY LTD

Contact: Carolyn Hickey

M: 0411650057

E: Cazadirect@live.com

A: 10 Marie Pitt Place, Glenmore Park, NSW 2745

ACN: 639 868 876

ABN: 31 639 868 876

Hi,

I have reviewed the document and support the ACHA.

A1 would like to be involved in any future Meetings and field work.

Kind regards

Carolyn Hickey

From: Chloe Annandale [redacted]
Sent: Wednesday, 19 August 2020 4:04 PM
Subject: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the draft Aboriginal Cultural Heritage Assessment prepared by South East Archaeology for the Mount Pleasant Optimisation Project.

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd

From: Lawrence Perry [redacted]
Sent: Friday, 18 September 2020 6:57 AM
To: Chloe Annandale [redacted]
Subject: RE: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Okay

Cheers
Laurie

From: Chloe Annandale
Sent: Thursday, 17 September 2020 2:51 PM
Subject: FW: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

Further to the below, this is a courtesy email reminding you that feedback on the draft Aboriginal Cultural Heritage Assessment (ACHA) provided to you on 19 August 2020 should be provided to MACH by **5:00 pm Wednesday 23 September 2020** (next Wednesday).

Should you wish to provide feedback on the draft ACHA, please advise MACH via the following contact details:

MACH Energy Pty Ltd
PO Box 2115,
Dangar West NSW 2309 Phone: 0407 784 554
Email: [redacted]

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

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From: Chloe Annandale [redacted]
Sent: Wednesday, 19 August 2020 4:04 PM
Subject: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

Please find attached correspondence from MACH Energy Australia Pty Ltd (MACH Energy) regarding the draft Aboriginal Cultural Heritage Assessment prepared by South East Archaeology for the Mount Pleasant Optimisation Project.

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

From: WIDESCOPE . <widescope.group@live.com>
Sent: Friday, 18 September 2020 10:43 AM
To: Chloe Annandale <Chloe.Annandale@machenergy.com.au>
Subject: RE: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi,

Thank you for providing me with the Draft Aboriginal Cultural Heritage Assessment Re: Mount Pleasant Optimisation Project

I have reviewed and support the recommendations out lined in the daft Aboriginal Cultural Heritage Assessment (ACHA)

Thank you
Steven Hickey

From: Chloe Annandale [redacted]
Sent: Thursday, September 17, 2020 2:51:03 PM
Subject: FW: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Dear Registered Aboriginal Stakeholder,

Further to the below, this is a courtesy email reminding you that feedback on the draft Aboriginal Cultural Heritage Assessment (ACHA) provided to you on 19 August 2020 should be provided to MACH by **5:00 pm Wednesday 23 September 2020** (next Wednesday).

Should you wish to provide feedback on the draft ACHA, please advise MACH via the following contact details:

MACH Energy Pty Ltd
PO Box 2115,
Dangar West NSW 2309 Phone: 0407 784 554
Email: [redacted]

If you require any further information, please do not hesitate to contact me on [redacted]

Kind regards,
Chloe

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

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From: Chloe Annandale [redacted]
Sent: Wednesday, 19 August 2020 4:04 PM
Subject: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

From: Manager <Manager@hvabcorp.org.au>
Sent: Wednesday, 23 September 2020 12:20 PM
To: Chloe Annandale [redacted]
Subject: Re: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi Chloe,

I have not forgotten about the submission, Aunty Rhonda is wanting to forward a last minute submission and she is in a meeting.

I should be in touch this afternoon.

Sorry for any inconvenience.

Regards,

Kylie Pascoe | Manager

Hunter Valley Aboriginal Corporation
Ph: (02) 6543 1180
M: [redacted]
180 – 182 Bridge Street, Muswellbrook NSW 2333
E: manager@hvabcorp.org.au

From: Ngaire Baker [redacted]
Sent: Thursday, 24 September 2020 11:14 AM
To: Noel Downs <ceo@wanaruahlandcouncil.com.au>; Chloe Annandale[redacted]
Subject: RE: Mount Pleasant Optimisation Project Hunter Valley NSW ACHA

Hi Noel,

Thanks, unfortunately Chloe's last name was spelt incorrectly, hence the bounce back.

I have included her now and will check to make sure it has been received.

Regards,
Ngaire

Ngaire Baker
External Relations Manager -
Aboriginal Community Development Fund Executive Officer

Mount Pleasant Operation
MACH Energy Australia Pty Ltd
1100 Wybong Road | PO Box 351 Muswellbrook NSW 2333
ABN: 34 608 495 441
Reception: +61 (02) 5517 1100 **Direct:** +61 (02) 5517 1111 **Mobile**: [redacted]
E-mail: [redacted]

Web: www.machenergyaustralia.com.au

Community Hotline 1800 886 889
Blasting Hotline: 1800 931 872
General Enquiries: 1800 931 873

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From: Noel Downs <ceo@wanaruahlandcouncil.com.au>
Sent: Thursday, 24 September 2020 11:11 AM
To: Ngaire Baker [redacted]
Subject: FW: Mount Pleasant Optimisation Project Hunter Valley NSW ACHA

This bounced and I don't know why

From: Noel Downs [mailto:ceo@wanaruahlandcouncil.com.au]
Sent: Wednesday, 23 September 2020 6:22 PM
To: 'chloe.annadale@machenergy.com.au' [redacted]
Cc: 'Suzie Worth' [redacted]
Subject: Mount Pleasant Optimisation Project Hunter Valley NSW ACHA

Dear Chloe,

With reference to the Mount Pleasant Optimisation Project Hunter Valley NSW ACHA report Wanaruah Local Aboriginal land council has the following comments:

Wanaruah LALC **does Not support** the recommendation sub paragraph (r). Specifically the part requiring BA Honours Deg qualifications as a minimum to conduct investigations..

In our experience there are Aboriginal community who have been involved in ACH activities and are every bit as capable and in many cases more so than many of the BA Honours Archaeologists we have worked with. There are also a number of Aboriginal Diploma qualified Archaeologists every bit as capable and far more knowledgeable than many BA Honours Archaeologists. To limit the pool of resources available to Aboriginal Community and force them to work with potentially substandard Archaeologists simply because they have a potentially meaningless piece of paper saying they know something is culturally inappropriate.

No works, investigations, monitoring or disturbance of sites are to be done without the presence of at least two of Local Aboriginal community who have the relevant experience required to conduct the works required.

The Wanaruah LALC community recommends that every effort is to be made to ensure that as many positions as possible to conduct any form of ACH works are filled by the Local Aboriginal community who have the relevant experience required to conduct the works in preference to bringing outsiders just because it is cheaper or easier is culturally inappropriate.

The Wanaruah LALC community recommends that mitigation measures must be offered that benefit the whole Local Aboriginal community not just the few. Land/ cultural offsets must include access to water, and be accessible by the Aboriginal community. These access processes must be timely and simple. Too often the complexity of the access procedures make access too difficult for many and that is also culturally inappropriate.

The Wanaruah LALC community recommends that there needs to be a further push by MACH energy to employ more local Aboriginal people in every area of their operation. Including creating training positions to enable the employment of admin and accounts juniors, that may be able to progress through to management positions in time.

Sorry this has come in late..

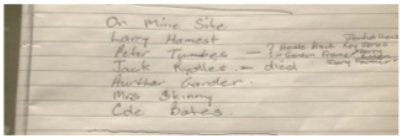
Yours truly

Noel Downs
CEO
Wanaruah Local Aboriginal land Council

From: Manager <Manager@hvabcorp.org.au>
Sent: Thursday, 24 September 2020 3:40 PM
To: Chloe Annandale [redacted]
Subject: Re: Mount Pleasant Operation - Draft Aboriginal Cultural Heritage Assessment Consultation

Hi Chloe,

Please accept my apologies for the late reply to the Draft Aboriginal Cultural Heritage Assessment. Overall, the Hunter Valley Aboriginal Corporation are satisfied and accept the draft. Aunty Rhonda Griffiths of the HVAC has mentioned that an aboriginal man from Denman by the name of Harry Bolton was employed as a farm hand on a property owned by the dentist Roy Jones. I have attached the list of names that she has of previous land owners for you.



Regards,

Kylie Pascoe | Manager

Hunter Valley Aboriginal Corporation

Ph: (02) 6543 1180
M: [redacted]
180 – 182 Bridge Street, Muswellbrook NSW 2333
E: manager@hvabcorp.org.au

The Hunter Valley Aboriginal Corporation acknowledges the traditional owners and knowledge holders of the land, the Wanaruah peoples. We pay our respect to the peoples and Elders past, present and future.

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On 23 Sep 2020, at 12:47 pm, Chloe Annandale [redacted]

Thanks Kylie, the update is much appreciated, look forward to receiving the comments later today.

Chloe Annandale
Environmental Advisor

MACH Energy Australia Pty Ltd
1100 Wybong Road | Muswellbrook NSW 2333
ABN: 34 608 495 441
m: [redacted]
e: [redacted]
www.machenergyaustralia.com.au

<image001.png>

APPENDIX 7.

ASSESSMENT OF SIGNIFICANCE, POTENTIAL IMPACTS AND APPROPRIATE MANAGEMENT STRATEGIES FOR ALL ABORIGINAL SITES OF RELEVANCE TO THE SSD PROJECT

Notes:

- **Table includes** all identified Aboriginal sites within the MPO Aboriginal Site Database Area (Revision 4, 21 November 2019) which encompasses 63.4 square kilometres and includes the currently approved MPO, the SSD Application Area and approved Aboriginal Heritage Conservation Area A and provisional Aboriginal Heritage Conservation Areas B and C.
- **Table is ordered** as per MPO Aboriginal Site Database Revision 4, 21 November 2019 by AHIMS ID# and includes all identified Aboriginal sites on the MPO Aboriginal Site Database Revision 4, 21 November 2019.
- **Site Name** - as attributed by the recorder, with sequential MTP numbering preferred when multiple site names exist.
- **Site Type** - following standard heritage management categories. Sites reassessed not to be of Aboriginal origin are retained as 'Non-Sites' as they have previously been reported and/or listed on AHIMS.
- **Original Easting, Original Northing, Datum, Zone, Database, MGA Easting and MGA Northing** columns present in the MPO Aboriginal Site Database Revision 4, 21 November 2019 are hidden from this table, but remain present within the operating internal MPO Aboriginal Site Database.
- **AHIP** – current AHIP number if applicable to the site location.
- **Notes** – key comments relating to information derived from previous reviews of the site data, any previous listing inaccuracies or corrections, site recorder/year and or site nature/contents.
- **Status** – whether the site has (under existing approvals) been salvaged, impacted, conserved or is *in situ* pending management. The assessment of the *current status* of known sites within the SSD Area (ie. the state of existing impacts under the current approval) is current for the date of the MACH supplied aerial photograph of 29 June 2019. The rapid progress of works for the approved MPO mean that in the intervening period of time since the photograph date, the current status of some Aboriginal sites as listed here may have changed. However, the management strategy, level of impacts and level of consequent impacts for these sites would not change.
- **Significance** – primarily only listed for sites *in situ* and/or pending management, not for sites that have been salvaged and/or impacted. Primarily derived from previous MPO heritage assessments (eg. Anderson 2007, ERM Mitchell McCotter 1996, 1997b, HLA-Envirosciences 2007, Kuskie 2016, McCardle 2007, Regal *et al* 2017, Rich 1995, Roberts 2007, Scarp 2009, 2010a, 2010b, 2012 and 2015) and Bengalla assessments where applicable (eg. AECOM 2013, 2017, ERM 2007a, 2007b, ENSR Australia 2008, Rich 1993). It is acknowledged that all Aboriginal heritage sites are of significance to the Aboriginal community and that while the Aboriginal community themselves are in the best position to identify the levels of cultural significance, there is often a diversity of opinion and a reluctance to engage in any comparative or ranking process (as is inherent within any system of significance assessment). Consequently, the significance assessments based on concepts of relativity and ranking presented here from the previous MPO studies generally relate to scientific aspects of significance, but this is in no way intended to prioritise scientific values over cultural values.

- **SSD Zone** - For the purposes of this Aboriginal Cultural Heritage Assessment, the SSD Area can be subdivided into a number of Zones (refer to Figure 6):

  A) Existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance. These areas are subdivided further as follows:

  A1) Subject to previous heritage survey and covered by an AHIP.
  A2) Subject to previous heritage survey, but not covered by an AHIP.
  A3) Not subject to previous heritage survey, but covered by an AHIP.
  A4) Not subject to previous heritage survey and not covered by an AHIP.
  A1R) Subject to previous heritage survey and covered by an AHIP – but to be relinquished under the SSD.
  A2R) Subject to previous heritage survey, but not covered by an AHIP – but to be relinquished under the SSD.
  A3R) Not subject to previous heritage survey, but covered by an AHIP – but to be relinquished under the SSD.
  A4R) Not subject to previous heritage survey and not covered by an AHIP – but to be relinquished under the SSD.

  B) Areas in which additional SSD primary disturbance is proposed. These areas can be subdivided further as follows:

  B1) Subject to previous heritage survey and covered by an AHIP.
  B2) Subject to previous heritage survey, but not covered by an AHIP.
  B3) Not subject to previous heritage survey, but covered by an AHIP.
  B4) Not subject to previous heritage survey and not covered by an AHIP.

  C) Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design.

- **Impacts: Type of Harm** (in relation to potential impacts from SSD Project) - as required by and specified in the Heritage NSW (former BCD / OEH) guidelines (DECCW 2010b). Categories of *direct*, *indirect* or *none*.

- **Impacts: Degree of Harm** (in relation to potential impacts from SSD Project) - as required by and specified in the Heritage NSW guidelines (DECCW 2010b). Categories of *total*, *partial* or *none*.

- **Impacts: Consequence of Harm** (in relation to potential impacts from SSD Project) - as required by and specified in the Heritage NSW guidelines (DECCW 2010b). Categories of *total loss of value*, *partial loss of value*, or *no loss of value*.

- **Rationale for Management Strategy** - key justification for proposed strategy (refer to Sections 10 and 11 of this report for discussion).

- **Recommended Management Strategy** - refer to Sections 10 and 11 of this report for discussion.

- **Consequent Impacts** - refers to the nature of potential impacts from the SSD Project after implementation of the recommended management strategy (refer to Sections 9 - 11 of report for discussion). The consequent impact definitions are as specified in the Heritage NSW guidelines (DECCW 2010b). Categories of *total loss of value*, *partial loss of value*, or *no loss of value*.

- **SSD Change** – observation on *increase*, *decrease* or otherwise of potential impacts from the SSD Project as compared to the previously approved MPO.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
33-2-0022	Bengalla	Artefact Scatter	2053	Site record says GDA, not AGD. OEH lists as AGD reference at same location as 37-2-2112.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
33-2-0025	MPO 2017/3	Isolated Artefact	2053	Recorded by Niche 2017 during MPO Modification survey. Site record and Niche 2017: Appendix 7 says GDA Zone 55 when in fact should be GDA Zone 56, hence may not appear on AHIMS search in correct location.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
33-2-0026	MPO 2017/2	Isolated Artefact	4783	Recorded by Niche 2017 during MPO Modification survey. Site record and Niche 2017: Appendix 7 says GDA Zone 55 when in fact should be GDA Zone 56, hence may not appear on AHIMS search in correct location.	In situ. AHIP says impacts must be avoided.	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
33-2-0028	MPO 2017/4	Artefact Scatter	4783	Recorded by Niche 2017 during MPO Modification test excavation. Site record and Niche 2017: Appendix 7 says GDA Zone 55 when in fact should be GDA Zone 56, hence may not appear on AHIMS search in correct location.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
33-2-0029	MPO 2017/5	Isolated Artefact	4783	Recorded by Niche 2017 during MPO Modification test excavation. Site record and Niche 2017: Appendix 7 says GDA Zone 55 when in fact should be GDA Zone 56, hence may not appear on AHIMS search in correct location.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-0563	Denman Road	Isolated Artefact	2053	Effenberger 1993. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0564	Castle Rock Road 2;	Artefact Scatter	2053	Effenberger 1993.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0565	Castle Rock Road 3;	Artefact Scatter	2053	Effenberger 1993. Incorrectly listed on AHIMS as AGD but with GDA grid reference and with error in easting.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-0566	Castle Rock Road 1;	Artefact Scatter	2092	Effenberger 1993. Probably equates to #37-2-4055 (MTP-117).	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0580	B11; - Bengala Mine	Artefact Scatter		Reported as destroyed - requires confirmation. Site record indicates site extends over a broad area, greater than 400 metres in length.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-0581	B12	Artefact Scatter	2053	Site extends over 200 metre length.	Was within MPO approved Development Consent boundary but now outside SSD Area.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-0582	B13; - Bengalla Mine	Artefact Scatter		Reported as destroyed - requires confirmation. Site record indicates site extends over a broad area, 600 x 400 metres, with another artefact 400 metres south-east.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-0583	B14;	Artefact Scatter	2053	Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-0585	B16;	Artefact Scatter	Partially in 2053	Only part may be within AHIP 2053 area. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-0586	B17;	Artefact Scatter	2053	50x20 metre area. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1 or Outside SSD Area	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0587	B18;	Artefact Scatter		Marginally outside AHIP 2053 area. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-0591	B22;	Artefact Scatter	2053	Rich 1993. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0592	B23;	Artefact Scatter	2053	Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0593	B24;	Artefact Scatter	2053	Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0594	B25;	Artefact Scatter	2053	At least 20x20 metre area. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0595	B26;	Artefact Scatter	2053	Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-0596	B27;	Artefact Scatter	2053	Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017). Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-0605	B36;	Artefact Scatter		Rich 1993.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-0844	Athlone 1	Artefact Scatter	2092	Ruig 1997.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-0847	BELL 3	Artefact Scatter	2092	Ruig 1997.	In situ	Uncertain	SSD Zone B1	Direct	Possibly total or partial	Possibly total or partial loss of value	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total or partial loss of value	Increase.
37-2-0849	BELL 5	Artefact Scatter	2092	Ruig 1997.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-0860	LON1	Artefact Scatter	2092	Ruig 1997.	In situ	Uncertain	SSD Zone B1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-0882	VILLAGE 1	Artefact Scatter		Ruig 1997.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-1447	Kayuga (1996) 13/1;K(1996) 13/1;	Open Artefact Site	Partially in 2092	Recorded by Ruig 1996. Partially adjacent to and partly within AHIP #2029 area. Site extends over approximately 180 x 90 metre area south and west of grid reference. Portion of site re-recorded during SSD survey in November 2019 by South East Archaeology.	In situ	Uncertain	SSD Zone B4 and Zone C	Direct	Possibly total or partial	Possibly total or partial loss of value	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total or partial loss of value	Increase.
37-2-1463	B36;	Artefact Scatter	2053	Rich 1995. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1464	C1;	Artefact Scatter	2053	Rich 1995. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1465	C5;	Artefact Scatter	2053	Rich 1995.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1466	C20;	Artefact Scatter	2053	Rich 1995. Salvaged by RPS as sites #37-2-3473 and #37-2-3472 but not reported as site #37-2-1466, ASIRF lodged May 2019.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1467	A1-A4;	Artefact Scatter	2053	Rich 1995. Site extends over 60 x 20 metres. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1468	A7-A8;	Artefact Scatter	2053	Rich 1995. Site extends over 150 x 1 metres. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1469	A33-A34;	Artefact Scatter	2053	Rich 1995. Site extends over 60+ metres. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1470	E2	Artefact Scatter	2092	Rich 1995. May equate to MTP-115 and MTP-116 in HLA (2007) report (#37-2-2918 and 37-2-2919).	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1471	B21;	Artefact Scatter	2053	Rich 1995.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-1472	B22;	Artefact Scatter	2053	Rich 1995. Site extends over 30 metres.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-1473	B23;	Artefact Scatter	2053	Rich 1995.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	Increase.
37-2-1474	B29;	Artefact Scatter	2053	Rich 1995. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1475	B32;	Artefact Scatter	2053	Rich 1995. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1476	E4	Artefact Scatter	2092	Rich 1995. Extends over length of 200 metres x 5 metres.	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1477	E11	Artefact Scatter	2092	Rich 1995.	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1478	E19;	Artefact Scatter	2053	Rich 1995. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1479	E22;	Artefact Scatter	2053	Rich 1995. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1480	F7-8;	Artefact Scatter	2092	Rich 1995. Adjacent sites extending over 30 x 15 and 20 x 15 metres.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-1481	H6	Artefact Scatter		Rich 1995. Immediately adjacent to AHIP 2092 area.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-1482	I1-3;	Artefact Scatter	Partially in 2092	Rich 1995. Adjacent sites extending over c.100 x 100 metres. May be partially or wholly within AHIP 2092 area.	In situ	Uncertain	SSD Zones A1, A2, A2R, B1, B2 and C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-1483	I4; I17-27	Artefact Scatter		Rich 1995. Comprises 'I4' extending over 30 x 4 metres around MGA [redacted] and I17-I27 extending over 400 x 200 metre area around MGA [redacted]	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-1484	I14;	Artefact Scatter		Rich 1995.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1485	I5	Artefact Scatter		Rich 1995.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-1486	I37	Artefact Scatter		Rich 1995.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-1487	I42	Artefact Scatter		Rich 1995.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-1488	IJ 1-10	Artefact Scatter	Partially in 2092	Rich 1995. Extensive site and only partially within AHIP 2092 area. Includes IJ3 around MGA [redacted] IJ4 over 50x3 metres around MGA [redacted] IJ8 over 100x3 metres around MGA [redacted] and IJ9 over 30x3 metres around MGA [redacted] All south of Dorset Road. Site Northing incorrect, should be further to south.	In situ	Uncertain	SSD Zones A, B and C	Direct	Total or partial	Total or partial loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total or partial loss of value	Increase.
37-2-1489	J4	Artefact Scatter		Rich 1995. Site extends over 20 x 20 metre area. Adjacent to AHIP 2092 area and may extend to partially within it. Equals site 37-2-2402.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1490	J19-J35	Artefact Scatter		Rich 1995. Extensive site over 600 x 500 metre area and may extend into AHIP 2092 area. Includes J19 and J21 over at least 60 metres around MGA [redacted] J26 over 90x50 metres around MGA [redacted] J29 over 100x80 metres around MGA [redacted] and J35 over 200x2 metres around MGA [redacted]	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-1491	J41	Artefact Scatter	2092	Rich 1995.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-1492	J42-44	Artefact Scatter	2092	Rich 1995. Site extends over 40 x 7 metres around J43 and further to encompass J42 and J44, probably wholly within AHIP 2092 area.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-1906	DE 1	Open Artefact Site		Recorded by Hardy (HLA-Envirosciences) 2000.	In situ	Uncertain	SSD Zone B4	Direct	Total	Total loss of value	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-1907	DE 2	Open Artefact Site		Recorded by Hardy (HLA-Envirosciences) 2000. Grid reference datum on site record and AHIMS appears incorrect as AGD. Site record mapping places site around GDA 293726:6434165, corrected here.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-2086	BEF1	Open Artefact Site	2053	Incorrectly listed on AHIMS as GDA but with AGD grid reference. Listed on AHIMS as 'Destroyed'. Artefact list in site record in GDA, with first artefact corresponding to location here. Artefacts extend to up to about 200 metres away at GDA 294028:6426561.	Outside SSD Area.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2087	BMRA1	Artefact Scatter	2053	ERM 2006.	Salvaged by ENSR 2008. On margin of SSD Area.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2088	BMRA2	Artefact Scatter	2053	ERM 2006. Site extends over broad area.	Salvaged by ENSR 2008. Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2089	BMRA3	Artefact Scatter	2053	ERM 2006.	Salvaged by ENSR 2008. Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2090	BMRA4	Artefact Scatter	Partially in 2053	ERM 2006. Site extends over at least 70 metre length.	Salvaged by ENSR 2008.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2091	BMRA5	Open Artefact Site	2053	ERM 2006. Site extends over 50x15 metres.	Salvaged by ENSR 2008.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2092	BMRA6	Open Artefact Site	2053	ERM 2006.	Salvaged by ENSR 2008.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2093	B 2	Artefact Scatter		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2094	B 3	Artefact Scatter		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2095	B4	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2096	B5	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] If AGD datum, same location as 37-2-2116.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2097	B6	Isolated Artefact		Listed on AHIMS as AGD (but with incorrect converted GDA reference) but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] If AGD datum, same location as 37-2-2117. Possibly just outside Database Area. Aecom ASIRF indicates site salvaged at location assuming original datum was AGD (=GDA [redacted]).	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2098	B7_	Isolated Artefact		Listed on AHIMS as AGD (but with incorrect converted GDA reference) but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] If AGD datum, same location as 37-2-2118. Aecom ASIRF indicates site salvaged at location assuming original datum was AGD (=GDA [redacted]).	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2099	B8	Isolated Artefact		Listed on AHIMS as AGD (but with incorrect converted GDA reference) but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]. If AGD datum, same location as 37-2-2119. Aecom ASIRF indicates site salvaged at location assuming original datum was AGD (=GDA [redacted]).	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2101	B10_	Isolated Artefact		Listed on AHIMS as AGD (but with incorrect converted GDA reference) but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]. If AGD datum, same location as 37-2-2121. Aecom ASIRF indicates site salvaged at location assuming original datum was AGD (=GDA [redacted].	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2102	B11_	Isolated Artefact		Listed on AHIMS as AGD (but with incorrect converted GDA reference) but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]. If AGD datum, same location as 37-2-2122. Aecom ASIRF indicates site salvaged at location assuming original datum was AGD (=GDA [redacted]).	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2103	B12_	Isolated Artefact		Listed on AHIMS as AGD (but with incorrect converted GDA reference) but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA, but potentially no review undertaken as not discussed in Continuation Project (Aecom 2013). If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]. If AGD datum, same location as 37-2-2123. Aecom ASIRF indicates site salvaged at location assuming original datum was AGD (=GDA [redacted].	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2105	B14_	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. Bengalla AHMP assumed AGD and converted to GDA for similar sites, but potentially no review undertaken. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted]	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2108	BEF1 - Bengalla Mining Company	Open Artefact Site		Artefact list in site record is in GDA. Outside AHIP 2053 area.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2112	Area 3 B 1	Isolated Artefact	Probabl y 2053	Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] which corresponds to 33-2-0022, placing it within AHIP 2053 area. Site record states this is a duplicate of 33-2-0022.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2113	Area 2 B2, 3,4,5,6,7	Artefact Scatter		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2114	Area 2 B 8	Artefact Scatter		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2115	Area 2 B 9	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2116	Area 2 B 10	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2117	Area 2 B 11	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2118	Area 2 B 12	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2119	Area 2 B 13	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2121	Area 2 B 15	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2122	Area 2 B 16	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2123	Area 2 B 17	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2125	Area 1 B 19	Isolated Artefact		Listed on AHIMS as AGD but Site Record reports a GDA grid reference. If site has GDA datum as originally reported on Site Record, it is situated at MGA [redacted] Reported as destroyed.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-2369	169	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2370	230	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2371	228	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2372	229	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2373	227	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2374	226	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2375	225	Isolated Artefact	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2376	224	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2377	223	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2378	222	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2379	221	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2380	170	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2381	171	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2382	172	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2383	173	Non-Site		McCardle 2007. Listed on AHIMS as 'Not a site'. Reassessed by Rio Tinto as not a hearth. No artefacts present either.	No further action required.	Nil	SSD Zone A2R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2384	174	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2385	175	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2386	176	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2387	177	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2388	178	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2389	179	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2390	180	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2391	181	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2392	182	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2393	183	Non-Site		McCardle 2007. Reassessed by Rio Tinto as not a hearth. No artefacts present either.	No further action required.	Nil	SSD Zone A1R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2394	184	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2395	185	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Immediately adjacent to AHIP area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2396	186	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2397	187	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2398	188	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Immediately adjacent to AHIP area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2399	189	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Immediately adjacent to AHIP area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2400	190	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Immediately adjacent to AHIP area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2401	191	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2402	192	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Equals site 37-2-1489.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2403	193	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2404	194	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2405	195	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2406	196	Isolated Artefact	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2407	139	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2408	140	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2409	141	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2410	142	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2411	143	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2412	144	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2413	145	Isolated Artefact	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2414	146	Non-Site		McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2415	147	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2416	148	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-2417	149	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2418	150	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2419	151	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2420	152	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2421	153	Non-Site		McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

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37-2-2422	154	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2423	155	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2424	156	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2425	157	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-2426	158	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2427	159	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2428	160	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2429	161	Non-Site		McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

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37-2-2430	162	Non-Site		McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2431	163	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2432	164	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2433	165	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2434	166	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2436	168	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2437	197	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2438	198	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2439	199	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2440	201	Isolated Artefact	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2441	202	Isolated Artefact	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2442	203	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2443	204	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2444	205	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2445	206	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2446	207	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2447	208	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2448	209	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2449	210	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2450	211	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2451	212	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2452	213	Non-Site		McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2453	214	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2454	215	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2455	216	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2456	217	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2457	218	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2458	219	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2459	220	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2460	231	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2461	232	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2462	233	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2463	234	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2464	235	Isolated Artefact	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Marginally within AHIP 2092 area, may extend outside.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.

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37-2-2465	236	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2466	237	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2467	238	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2468	239	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-2469	240	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2470	241	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2471	242	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2472	243	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-2473	244	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2474	245	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2475	246	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2476	247	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Marginally within AHIP 2092 area, may extend outside.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2477	248	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2478	249	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2479	250	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2480	251	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2481	252	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. Marginally within AHIP 2092 area, may extend outside.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2482	253	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2483	254	Artefact Scatter	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2484	255	Artefact Scatter	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2485	256	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2486	257	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2487	258	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2488	259	Non-Site		McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

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37-2-2489	260	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2490	261	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2491	262	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2492	263	Non-Site	2092	McCardle 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1R - C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

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37-2-2493	264	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2494	265	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2495	266	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2496	267	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2497	268	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2498	269	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2499	270	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2500	271	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2501	272	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2502	273	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2503	274	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2504	275	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2505	276	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2506	277	Artefact Scatter	2092	McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2507	278	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2508	279	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2509	280	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2510	281	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2511	282	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2512	283	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2513	284	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2514	285	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection. Grind stone requires verification by use-wear expert.	Total loss of value	No change.
37-2-2515	286	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2516	287	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2517	288	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2518	289	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2519	290	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2520	291	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2521	292	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2522	293	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2523	294	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.	Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2524	295	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2525	296	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2526	297	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2527	298	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-2528	299	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-2529	300	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2530	301	Isolated Artefact		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2531	302	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2532	303	Artefact Scatter		McCardle 2007. Verification against site record warranted - likely to be incorrectly reported on Site Record as AGD Datum when mapping and report indicates GDA as listed here.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-2533	304	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2534	305	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2535	306	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2536	307	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2537	308	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2538	309	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2539	310	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2540	311	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2541	312	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2542	339	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2543	340	Non-Site	2053	Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2544	341	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2545	342	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2546	343	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2547	344	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2548	345	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2549	346	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2550	347	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-2551	348	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2552	349	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2553	350	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2554	351	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2555	352	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2556	353	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2557	354	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2558	355	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2560	Mount Pleasant 702 (duplicate of 37-2-3281)	Artefact Scatter	2053	Anderson 2007. Equals #37-2-3281. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2561	Mount Pleasant 703 (duplicate of 37-2-3282)	Artefact Scatter	2053	Anderson 2007. Equals #37-2-3282. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2562	Mount Pleasant 704 (duplicate of 37-2-3283)	Artefact Scatter	2053	Anderson 2007. Equals #37-2-3283. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by Bengalla (AECOM 2017).		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2564	Mount Pleasant 706 (duplicate of 37-2-3285)	Isolated Artefact	2053	Anderson 2007. Equals #37-2-3285. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2565	Mount Pleasant 707 (duplicate of 37-2-3286)	Isolated Artefact	2053	Anderson 2007. Equals #37-2-3286. Incorrectly listed on AHIMS as AGD but with GDA grid reference.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2629	BMRA8	Isolated Artefact	2053	Marginally within AHIP 2053 area. Salvaged by ENSR 2008. Original site record says AGD datum, but appears to be incorrect.	Salvaged by ENSR 2008.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2630	BMRA9	Isolated Artefact		Marginally outside AHIP 2053 area. Salvaged by ENSR 2008. Original site record says AGD datum, but appears to be incorrect.	Salvaged by ENSR 2008.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2808	MTP-1	Isolated Artefact			In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2809	MTP-2	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2810	MTP-3	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2811	MTP-4	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2812	MTP-5	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2813	MTP-6	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2814	MTP-7	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2815	MTP-8	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2816	MTP-9	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2817	MTP-10	Isolated Artefact			In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2819	MTP-12	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2820	MTP-13	Artefact Scatter	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2821	MTP-14	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2822	MTP-15	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2823	MTP-16	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2824	MTP-17	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2825	MTP-18	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2826	MTP-19	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2827	MTP-20	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2828	MTP-21	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2829	MTP-22	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2830	MTP-23	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2831	MTP-24	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2832	MTP-25	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2833	MTP-26	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2834	MTP-27	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2835	MTP-28	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2836	MTP-29	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2837	MTP-33	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2838	MTP-34	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2839	MTP-35	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2840	MTP-36	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2841	MTP-37	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2842	MTP-38	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2843	MTP-39	Isolated Artefact	2053		Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2844	MTP-40	Isolated Artefact	2053		Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2845	MTP-41	Isolated Artefact	2053		Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2846	MTP-42	Isolated Artefact	2053		Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2847	MTP-43	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2848	MTP-44	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2849	MTP-45	Isolated Artefact	2092		Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2850	MTP-46	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2851	MTP-47	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2852	MTP-48	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2853	MTP-49	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2854	MTP-50	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2855	MTP-51	Non-Site		Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2856	MTP-52	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2857	MTP-53	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2858	MTP-54	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2859	MTP-55	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2860	MTP-56	Non-Site	2053	Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2861	MTP-57	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2862	MTP-58	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2863	MTP-59	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2864	MTP-60	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2865	MTP-61	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2866	MTP-62	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2867	MTP-63	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2868	MTP-64	Artefact Scatter	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2869	MTP-65	Isolated Artefact	2053		Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2870	MTP-66	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2871	MTP-67	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2872	MTP-68	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2873	MTP-69	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2874	MTP-70	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2875	MTP-71	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2876	MTP-72	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2877	MTP-73	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2878	MTP-74	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2879	MTP-75	Non-Site	2053	Recorded by HLA 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2880	MTP-76	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2881	MTP-77	Non-Site	2053	HLA 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2882	MTP-78	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2883	MTP-79	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2884	MTP-80	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2885	MTP-81	Non-Site	2053	HLA 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2886	MTP-82	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2887	MTP-83	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2888	MTP-84	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2889	MTP-85	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2890	MTP-86	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2891	MTP-87	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2892	MTP-88	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2893	MTP-89	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2894	MTP-90	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2895	MTP-91	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2896	MTP-92	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2897	MTP-93	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2898	MTP-94	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2899	MTP-95	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2900	MTP-96	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2901	MTP-97	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2902	MTP-98	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2903	MTP-99	Non-Site	2053	Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone B1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2904	MTP-100	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2905	MTP-101	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2906	MTP-102	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2907	MTP-103	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2908	MTP-104	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2909	MTP-105	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2910	MTP-106	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2911	MTP-107	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2912	MTP-108	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2913	MTP-109	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2914	MTP-110	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2915	MTP-112	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2916	MTP-113	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2917	MTP-114	Artefact Scatter	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2918	MTP-115	Artefact Scatter	2092	HLA 2007. May equate to #37-2-1470.	Salvaged by South East Archaeology, December 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2919	MTP-116	Artefact Scatter	2092	HLA 2007. May equate to #37-2-1470.	Salvaged by South East Archaeology, December 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2920	MTP-117	Artefact Scatter	2092	May equate to #37-2-1476. HLA 2007.	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2921	MTP-118	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2922	MTP-119	Isolated Artefact		HLA 2007.	In situ	Uncertain	SSD Zone A1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	No change.

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37-2-2923	MTP-120	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2924	MTP-121	Isolated Artefact		HLA 2007.	In situ	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-2925	MTP-122	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2926	MTP-123	Isolated Artefact	2053	HLA 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2927	MTP-124	Non-Site		HLA 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone B2	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2928	MTP-125	Isolated Artefact		HLA 2007.	In situ	Uncertain	SSD Zone A1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	No change.
37-2-2929	MTP-126	Isolated Artefact		HLA 2007. On border of AHIP 2092 area.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-2930	MTP-127	Isolated Artefact	2092	HLA 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2931	MTP-129	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2932	MTP-130	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2933	MTP-131	Isolated Artefact	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2934	MTP-132	Isolated Artefact	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2935	MTP-133	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2936	MTP-134	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2937	MTP-135	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2938	MTP-136	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2939	MTP-137	Artefact Scatter	2092	HLA 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2940	MTP-138	Artefact Scatter		HLA 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2941	MTP-356	Isolated Artefact		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2942	MTP-357	Artefact Scatter		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2943	MTP-358	Isolated Artefact		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2944	MTP-360	Isolated Artefact		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2945	MTP-361	Isolated Artefact	2092	Roberts 2007 - reported as source of coloured sandstone. Requires verification.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2946	MTP-362	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2947	MTP-364	Artefact Scatter	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2948	MTP-365	Non-Site	2092	Roberts 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2949	MTP-366	Artefact Scatter		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-2950	MTP-368	Isolated Artefact	2092	Roberts 2007. On margin of AHIP 2092 area, may extend to outside of AHIP area.	In situ	Uncertain	SSD Zone B1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-2951	MTP-369	Isolated Artefact		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-2952	MTP-370	Non-Site		Roberts 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A2	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-2953	MTP-371	Isolated Artefact	2092	Roberts 2007.	In situ	Uncertain	SSD Zone B1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-2954	MTP-372	Artefact Scatter	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2955	MTP-374	Artefact Scatter	2092	Roberts 2007. Site extends over 40 metre diameter.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2956	MTP-375	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2957	MTP-376	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.

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37-2-2958	MTP-377	Isolated Artefact	2092	Roberts 2007 - reported as source of ochre. Requires verification.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2959	MTP-378	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2960	MTP-379	Artefact Scatter	2092	Roberts 2007. Site extends over 40 metre diameter.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2961	MTP-380	Artefact Scatter	2092	Roberts 2007.	In situ	Uncertain	SSD Zone B1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-2962	MTP-381	Artefact Scatter	2092	Roberts 2007. Part may be outside AHIP area.	In situ	Uncertain	SSD Zone B1	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
37-2-2963	MTP-382	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2964	MTP-383	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2965	MTP-384	Artefact Scatter	2092, 2053	Roberts 2007. On boundary of both AHIP areas.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2966	MTP-385	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2967	MTP-386	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2968	MTP-387	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Probably direct	Probably total	Probably total loss of value	Approved AHIP strategy - collection.	Surface collection.	Probably total loss of value	No change.
37-2-2969	MTP-388	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2970	MTP-389	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2971	MTP-390	Isolated Artefact	2092	Roberts 2007.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-2972	MTP-391	Artefact Scatter	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2973	MTP-392	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2974	MTP-393	Isolated Artefact	2092, 2053	Roberts 2007. On boundary of both AHIP areas.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2975	MTP-394	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2976	MTP-395	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2977	MTP-396	Artefact Scatter	2092	Roberts 2007. 20 metre diameter.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2978	MTP-397	Artefact Scatter	2092	Roberts 2007. 20 metre diameter.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2979	MTP-398	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2980	MTP-399	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2981	MTP-400	Isolated Artefact	2092	Roberts 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2982	MTP-401	Artefact Scatter	2053	Roberts 2007. 50 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2983	MTP-402	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2984	MTP-403	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2985	MTP-404	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2986	MTP-405	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2987	MTP-406	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-2988	MTP-407	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2989	MTP-408	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2990	MTP-409	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2991	MTP-410	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2992	MTP-411	Artefact Scatter	2053	Roberts 2007. 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2993	MTP-412	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2994	MTP-413	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2995	MTP-414	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2996	MTP-415	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2997	MTP-416	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2998	MTP-417	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-2999	MTP-418	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3000	MTP-419	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3001	MTP-420	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3002	MTP-421	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3003	MTP-422	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3004	MTP-423	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3005	MTP-424	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3006	MTP-425	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3007	MTP-426	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3008	MTP-427	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3009	MTP-428	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3010	MTP-429	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3011	MTP-430	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3012	MTP-431	Isolated Artefact	2053	Roberts 2007. AHIMS northing of 6431299 incorrect.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3013	MTP-432	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3014	MTP-433	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3015	MTP-434	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3016	MTP-435	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3017	MTP-436	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3018	MTP-437	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3019	MTP-438	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3020	MTP-439	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3021	MTP-440	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3022	MTP-441	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3023	MTP-442	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3024	MTP-443	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3025	MTP-444	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3026	MTP-445	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3027	MTP-446	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3028	MTP-447	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3029	MTP-448	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3030	MTP-449	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3031	MTP-450	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3032	MTP-451	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3033	MTP-452	Artefact Scatter	2053	Roberts 2007. Extends over 40 metre area.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3034	MTP-453	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3035	MTP-454	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3036	MTP-455	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3037	MTP-456	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3038	MTP-458	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3039	MTP-459	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3040	MTP-460	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3041	MTP-461	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3042	MTP-462	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3043	MTP-463	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3044	MTP-464	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3045	MTP-465	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3046	MTP-466	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3047	MTP-467	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3048	MTP-468	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3049	MTP-469	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3050	MTP-470	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3051	MTP-471	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3052	MTP-472	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3053	MTP-473	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3054	MTP-474	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3055	MTP-475	Isolated Artefact		Roberts 2007. Marginally outside AHIP 2053 area.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3056	MTP-476	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3057	MTP-477	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3058	MTP-478	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3059	MTP-479	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3060	MTP-480	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3061	MTP-481	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3062	MTP-482	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3063	MTP-483	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3064	MTP-484	Non-Site	2053	Roberts 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3065	MTP-485	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3067	MTP-487	Artefact Scatter		Roberts 2007. May extend to within Site Database Area. Site extends over 30 metre diameter.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3068	MTP-488	Isolated Artefact		Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3069	MTP-489	Artefact Scatter	2053	Roberts 2007. Portion of site may extend outside of AHIP area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3070	MTP-490	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3071	MTP-491	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3072	MTP-492	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3073	MTP-493	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3074	MTP-494	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3075	MTP-495	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3076	MTP-496	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3077	MTP-497	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3078	MTP-498	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3079	MTP-499	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3080	MTP-500	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3081	MTP-501	Open Artefact Site	2053	Roberts 2007. Potentially only portion of the site within AHIP 2053 area and portion outside of AHIP area. 40 metre diameter.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3082	MTP-502	Artefact Scatter		Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3083	MTP-503	Artefact Scatter		Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3092	MTP-512	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3093	MTP-513	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3094	MTP-514	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3095	MTP-515	Non-Site	2053	Roberts 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3096	MTP-516	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3097	MTP-518	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3105	MTP-526	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3106	MTP-527	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3107	MTP-528	Non-Site	2053	Roberts 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3108	MTP-529	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3109	MTP-530	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3110	MTP-531	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3111	MTP-532	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3112	MTP-533	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3113	MTP-534	Isolated Artefact		Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3121	MTP-542	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3122	MTP-543	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3123	MTP-544	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3124	MTP-545	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3125	MTP-546	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3126	MTP-547	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3134	MTP-555	Artefact Scatter		Roberts 2007. 30 metre diameter.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3135	MTP-556	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3136	MTP-557	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3137	MTP-558	Artefact Scatter		Roberts 2007. 20 metre diameter.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3153	MTP-574	Isolated Artefact		Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3154	MTP-575	Artefact Scatter		Roberts 2007. 20 metre diameter.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-3155	MTP-576	Artefact Scatter	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3156	MTP-577	Non-Site	2053	Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

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37-2-3157	MTP-578	Isolated Artefact	2053	Roberts 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3165	MTP-586	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3166	MTP-587	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3167	MTP-588	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3168	MTP-589	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3169	MTP-590	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3170	MTP-591	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3171	MTP-592	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3172	MTP-593	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3173	MTP-594	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3174	MTP-595	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3175	MTP-596	Artefact Scatter	2053	Roberts 2007. 70 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3176	MTP-597	Artefact Scatter	2053	Roberts 2007. 50 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3177	MTP-598	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3178	MTP-599	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3179	MTP-600	Artefact Scatter		Roberts 2007. 20 metre diameter.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3180	MTP-601	Isolated Artefact		Roberts 2007.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3181	MTP-602	Artefact Scatter		Roberts 2007. 20 metre diameter.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3182	MTP-603	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3183	MTP-604	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3184	MTP-605	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

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37-2-3185	MTP-606	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3186	MTP-607	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3187	MTP-608	Artefact Scatter		Roberts 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

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37-2-3188	MTP-609	Artefact Scatter		Roberts 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3189	MTP-610	Artefact Scatter		Roberts 2007. 40 metre diameter.	Conservation Area C	Uncertain	SSD Zones A2, B2 and C	Direct	Total or partial	Total or partial loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total or partial loss of value	Increase.
37-2-3190	MTP-611	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3191	MTP-612	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3192	MTP-613	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3193	MTP-614	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3194	MTP-615	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3195	MTP-616	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3196	MTP-617	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3197	MTP-618	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3198	MTP-619	Artefact Scatter		Roberts 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3199	MTP-620	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3200	MTP-621	Artefact Scatter		Roberts 2007. 10 metre diameter.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3201	MTP-622	Artefact Scatter		Roberts 2007. 10 metre diameter.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3202	MTP-623	Isolated Artefact		Roberts 2007.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3203	MTP-624	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3204	MTP-625	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3205	MTP-626	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3206	MTP-627	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3207	MTP-628	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3208	MTP-629	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3209	MTP-630	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3210	MTP-631	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3211	MTP-632	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3212	MTP-633	Artefact Scatter		Roberts 2007. 5 metre diameter.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3213	MTP-634	Artefact Scatter		Roberts 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3214	MTP-635	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3215	MTP-636	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3216	MTP-637	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3217	MTP-638	Artefact Scatter		Roberts 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3218	MTP-639	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3219	MTP-640	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

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37-2-3220	MTP-641	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3221	MTP-642	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3222	MTP-643	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

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37-2-3223	MTP-644	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3224	MTP-645	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3225	MTP-646	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

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37-2-3226	MTP-647	Isolated Artefact		Roberts 2007.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3227	MTP-648	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3228	MTP-649	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3229	MTP-650	Artefact Scatter	2053	Roberts 2007. 10 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3230	MTP-651	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3231	MTP-652	Artefact Scatter	2053	Roberts 2007. 5 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3232	MTP-653	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3233	MTP-654	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3234	MTP-655	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3235	MTP-656	Artefact Scatter	2053	Roberts 2007. 20 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3236	MTP-657	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3237	MTP-658	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3238	MTP-659	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3239	MTP-660	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3240	MTP-661	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3241	MTP-662	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3242	MTP-663	Isolated Artefact		Roberts 2007.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3243	MTP-664	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3244	MTP-665	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3245	MTP-666	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3246	MTP-667	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3247	MTP-668	Artefact Scatter	2053	Roberts 2007. 10 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3248	MTP-669	Artefact Scatter		Roberts 2007. 20 metre diameter.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3249	MTP-670	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3250	MTP-671	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3251	MTP-672	Artefact Scatter		Roberts 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3252	MTP-673	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3253	MTP-674	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3254	MTP-675	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

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37-2-3255	MTP-676	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3256	MTP-677	Artefact Scatter		Roberts 2007. 40 metre diameter.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
37-2-3257	MTP-678	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

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37-2-3258	MTP-679	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3259	MTP-680	Artefact Scatter		Roberts 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3260	MTP-681	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

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37-2-3261	MTP-682	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3262	MTP-683	Artefact Scatter		Roberts 2007. 70 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3263	MTP-684	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3264	MTP-685	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3265	MTP-686	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3266	MTP-687	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3267	MTP-688	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3268	MTP-689	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3269	MTP-690	Artefact Scatter	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3270	MTP-691	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3271	MTP-692	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3272	MTP-693	Isolated Artefact	2053	Roberts 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3273	MTP-694	Isolated Artefact		Roberts 2007.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3274	MTP-695	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone A2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

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37-2-3275	MTP-696	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3276	MTP-697	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
37-2-3277	MTP-698	Artefact Scatter		Roberts 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3278	MTP-699	Isolated Artefact		Roberts 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3279	MTP-700	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3280	MTP-701	Artefact Scatter		Roberts 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3281	MTP-702	Artefact Scatter	2053	Anderson 2007. Equals #37-2-2560.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3282	MTP-703	Artefact Scatter	2053	Anderson 2007. 20 metre diameter.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3283	MTP-704	Artefact Scatter	2053	Anderson 2007. 30 metre diameter.	Salvaged by Bengalla (AECOM 2017).		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3284	MTP-705	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3285	MTP-706	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3286	MTP-707	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3287	MTP-708	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3288	MTP-709	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3289	MTP-710	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3290	MTP-711	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3291	MTP-712	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3292	MTP-713	Artefact Scatter		Anderson 2007. 20 metre diameter.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3293	MTP-714	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3294	MTP-715	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3295	MTP-716	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone B2	Direct	Total	Total loss of value	Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

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37-2-3296	MTP-717	Artefact Scatter		Anderson 2007. 1 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3297	MTP-718	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3298	MTP-719	Artefact Scatter		Anderson 2007. 3 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3299	MTP-720	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3300	MTP-721	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3301	MTP-722	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3302	MTP-723	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3303	MTP-724	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3304	MTP-725	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3305	MTP-726	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3306	MTP-727	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3307	MTP-728	Artefact Scatter	2053	Anderson 2007. Only part of site may be within AHIP 2053 area.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3308	MTP-729	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3309	MTP-730	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3310	MTP-731	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3311	MTP-732	Artefact Scatter	2053	Anderson 2007. 1 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3312	MTP-733	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3313	MTP-734	Artefact Scatter	2053	Anderson 2007. 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3314	MTP-735	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3315	MTP-736	Artefact Scatter	2053	Anderson 2007. 10 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3316	MTP-737	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3317	MTP-738	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3318	MTP-739	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3319	MTP-740	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3320	MTP-741	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3321	MTP-742	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3322	MTP-743	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3323	MTP-744	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3324	MTP-745	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3325	MTP-746	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3326	MTP-747	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3327	MTP-748	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3328	MTP-749	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3329	MTP-750	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3330	MTP-751	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3331	MTP-752	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3332	MTP-753	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3333	MTP-754	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3334	MTP-755	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3335	MTP-756	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3336	MTP-757	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3337	MTP-758	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3338	MTP-759	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3339	MTP-760	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3340	MTP-761	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3341	MTP-762	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3342	MTP-763	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3343	MTP-764	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3344	MTP-765	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3345	MTP-766	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3346	MTP-767	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3347	MTP-768	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3348	MTP-769	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3349	MTP-770	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3350	MTP-771	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3351	MTP-772	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3352	MTP-773	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3353	MTP-774	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3354	MTP-775	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3355	MTP-776	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3356	MTP-777	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3357	MTP-778	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3358	MTP-779	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3359	MTP-780	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3360	MTP-781	Non-Site	2053	Recorded by Anderson 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone B1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3361	MTP-782	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3362	MTP-783	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3363	MTP-784	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3364	MTP-785	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3365	MTP-786	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3366	MTP-787	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3367	MTP-788	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3368	MTP-789	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3369	MTP-790	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3370	MTP-791	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3371	MTP-793	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3372	MTP-794	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3373	MTP-795	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3374	MTP-796	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3375	MTP-797	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3376	MTP-798	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3377	MTP-799	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3378	MTP-800	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3379	MTP-801	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3380	MTP-802	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3381	MTP-803	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3382	MTP-804	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3383	MTP-805	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3384	MTP-806	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3385	MTP-807	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3386	MTP-808	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3387	MTP-809	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3388	MTP-810	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3389	MTP-811	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3390	MTP-812	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3391	MTP-813	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3392	MTP-814	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3393	MTP-815	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3394	MTP-816	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3395	MTP-817	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3396	MTP-818	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3397	MTP-819	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3398	MTP-820	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3399	MTP-821	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3400	MTP-822	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3401	MTP-823	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3402	MTP-824	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3403	MTP-825	Non-Site	2053	Anderson 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3404	MTP-826	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3405	MTP-827	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3406	MTP-828	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3407	MTP-829	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3408	MTP-830	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3409	MTP-831	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3410	MTP-832	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3411	MTP-833	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3412	MTP-834	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3413	MTP-835	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3414	MTP-836	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3415	MTP-837	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3416	MTP-838	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3417	MTP-839	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3418	MTP-840	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3419	MTP-841	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3420	MTP-842	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3421	MTP-843	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3422	MTP-844	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3423	MTP-845	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3424	MTP-846	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3425	MTP-847	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3426	MTP-848	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3427	MTP-849	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3428	MTP-850	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3429	MTP-851	Artefact Scatter	2053	Anderson 2007. Site extends over 30 metre diameter. AHIMS northing of 6431299 incorrect.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3430	MTP-852	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3431	MTP-853	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3432	MTP-854	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3433	MTP-855	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3434	MTP-856	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3435	MTP-857	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3436	MTP-858	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3437	MTP-859	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3438	MTP-860	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3439	MTP-861	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3440	MTP-862	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3441	MTP-863	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3442	MTP-864	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3443	MTP-865	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3444	MTP-866	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3445	MTP-867	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3446	MTP-868	Artefact Scatter	2053	Anderson 2007. Extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3447	MTP-869	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3448	MTP-870	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3449	MTP-871	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3450	MTP-872	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3451	MTP-873	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3452	MTP-874	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3453	MTP-875	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3454	MTP-876	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3455	MTP-877	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3456	MTP-878	Isolated Artefact		Anderson 2007. Reported as salvaged by RPS under AHIP 2053 but located in Conservation Area and not covered by AHIP.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3457	MTP-879	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3458	MTP-880	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3459	MTP-881	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3460	MTP-882	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3461	MTP-883	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3462	MTP-884	Isolated Artefact		Anderson 2007.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-3463	MTP-885	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3464	MTP-886	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3465	MTP-887	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3466	MTP-888	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3467	MTP-889	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3468	MTP-890	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3469	MTP-891	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3470	MTP-892	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3471	MTP-893	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3472	MTP-894	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3473	MTP-895	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3474	MTP-896	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3475	MTP-897	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3476	MTP-898	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3477	MTP-899	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3478	MTP-900	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3479	MTP-901	Non-Site	2053	Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3480	MTP-902	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3481	MTP-903	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3482	MTP-904	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3483	MTP-905	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3484	MTP-906	Artefact Scatter	2053	Anderson 2007. Extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3485	MTP-907	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3486	MTP-908	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3487	MTP-909	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3488	MTP-910	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3489	MTP-911	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3490	MTP-912	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3491	MTP-913	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3492	MTP-914	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3493	MTP-915	Artefact Scatter	2053	Anderson 2007. Extends over 60 x 40 metre area.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3494	MTP-916	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3495	MTP-917	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3496	MTP-918	Artefact Scatter		Anderson 2007.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

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37-2-3497	MTP-919	Artefact Scatter		Anderson 2007. Extends over 30 metre diameter.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-3498	MTP-920	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3499	MTP-921	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3500	MTP-922	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3501	MTP-923	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3502	MTP-924	Artefact Scatter		Anderson 2007. 3 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3503	MTP-925	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3504	MTP-926	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3505	MTP-927	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3506	MTP-928	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3507	MTP-929	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3508	MTP-930	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3509	MTP-931	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3510	MTP-932	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3511	MTP-933	Artefact Scatter		Anderson 2007. 40 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3512	MTP-934	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3513	MTP-935	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3514	MTP-936	Artefact Scatter		Anderson 2007. 5 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3515	MTP-937	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3516	MTP-938	Artefact Scatter		Anderson 2007. 60 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3517	MTP-939	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3518	MTP-940	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3519	MTP-941	Artefact Scatter		Anderson 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3520	MTP-942	Artefact Scatter		Anderson 2007. 40 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3521	MTP-943	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3522	MTP-944	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3523	MTP-945	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3524	MTP-946	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3525	MTP-947	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3526	MTP-948	Artefact Scatter		Anderson 2007. 40 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3527	MTP-949	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3528	MTP-950	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3529	MTP-951	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3530	MTP-952	Artefact Scatter		Anderson 2007. 30 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3531	MTP-953	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3532	MTP-954	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3533	MTP-955	Artefact Scatter		Anderson 2007. 10 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3534	MTP-956	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3535	MTP-957	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3536	MTP-958	Artefact Scatter	2053	Anderson 2007. 5 metre diameter.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3537	MTP-959	Artefact Scatter	2053	Anderson 2007. 30 metre diameter.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3538	MTP-960	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3539	MTP-961	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3540	MTP-962	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3541	MTP-963	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3542	MTP-964	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3543	MTP-965	Artefact Scatter	2053	Anderson 2007. 70 x 20 metre area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3544	MTP-966	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3545	MTP-967	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3546	MTP-968	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3547	MTP-969	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3548	MTP-970	Artefact Scatter	2053	Anderson 2007. 30 metre diameter.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3549	MTP-971	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3550	MTP-972	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3551	MTP-973	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3552	MTP-974	Isolated Artefact	2053	Anderson 2007.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3553	MTP-975	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3554	MTP-976	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3555	MTP-977	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3556	MTP-978	Artefact Scatter	2053	Anderson 2007. 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3557	MTP-979	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3558	MTP-980	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3559	MTP-981	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3560	MTP-982	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3561	MTP-983	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3562	MTP-984	Isolated Artefact	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3563	MTP-985	Artefact Scatter	2053	Anderson 2007.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3565	MTP-987	Artefact Scatter		Anderson 2007.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3566	MTP-988	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3567	MTP-989	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3568	MTP-990	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3569	MTP-991	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3570	MTP-992	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3571	MTP-993	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3572	MTP-994	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3573	MTP-995	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3574	MTP-996	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3575	MTP-997	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3576	MTP-998	Open Artefact Site		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3577	MTP-999	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3578	MTP-1000	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3579	MTP-1001	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3580	MTP-1002	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3581	MTP-1003	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3582	MTP-1004	Artefact Scatter		Anderson 2007. 20 metre diameter.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3583	MTP-1005	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3584	MTP-1006	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3585	MTP-1007	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3586	MTP-1008	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3587	MTP-1009	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3588	MTP-1010	Artefact Scatter	2053	Anderson 2007 (but details not included within report). Site extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3589	MTP-1011	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3590	MTP-1012	Artefact Scatter	2053	Anderson 2007 (but details not included within report). Site extends over 40 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3591	MTP-1013	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3592	MTP-1014	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3593	MTP-1015	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3594	MTP-1016	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3595	MTP-1017	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3596	MTP-1018	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3597	MTP-1019	Artefact Scatter	2053	Anderson 2007 (but details not included within report). Grid reference corrected here from earlier database. AHIMS grid reference easting 291534 incorrect. Site extends over 100 x 60 metre area.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3598	MTP-1020	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3599	MTP-1021	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3600	MTP-1022	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3601	MTP-1023	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3602	MTP-1024	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3603	MTP-1025	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3604	MTP-1026	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3605	MTP-1027	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3606	MTP-1028	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3607	MTP-1029	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3608	MTP-1030	Artefact Scatter	2053	Anderson 2007 (but details not included within report). Site extends over 50 x 10 metre area.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3609	MTP-1031	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3610	MTP-1032	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3611	MTP-1033	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3612	MTP-1034	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3613	MTP-1035	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3614	MTP-1036	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3615	MTP-1037	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3616	MTP-1038	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3617	MTP-1039	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3618	MTP-1040	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3619	MTP-1041	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3620	MTP-1042	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3621	MTP-1043	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3622	MTP-1044	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3623	MTP-1045	Artefact Scatter		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3624	MTP-1046	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3625	MTP-1047	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3626	MTP-1048	Artefact Scatter	2053	Anderson 2007 (but details not included within report). Site extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3627	MTP-1049	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3628	MTP-1050	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3629	MTP-1051	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3630	MTP-1052	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3631	MTP-1053	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3632	MTP-1054	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3633	MTP-1055	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3634	MTP-1056	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3635	MTP-1057	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3636	MTP-1058	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3637	MTP-1059	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3638	MTP-1060	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3639	MTP-1061	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3640	MTP-1062	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3641	MTP-1063	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3642	MTP-1064	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3643	MTP-1065	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3644	MTP-1066	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3645	MTP-1067	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3646	MTP-1068	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3647	MTP-1069	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3648	MTP-1070	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3649	MTP-1071	Isolated Artefact		Anderson 2007.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3650	MTP-1072	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3651	MTP-1073	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3652	MTP-1074	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3653	MTP-1075	Artefact Scatter	2053	Anderson 2007 (but details not included within report). Site extends over 30 metre diameter.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3654	MTP-1076	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3655	MTP-1077	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3656	MTP-1078	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3657	MTP-1079	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3658	MTP-1080	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3659	MTP-1081	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3660	MTP-1082	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3661	MTP-1083	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3662	MTP-1084	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3663	MTP-1085	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3664	MTP-1086	Isolated Artefact	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3665	MTP-1087	Artefact Scatter	2053	Anderson 2007 (but details not included within report).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3666	MTP-1088	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3667	MTP-1089	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3668	MTP-1090	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3669	MTP-1091	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3670	MTP-1092	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3671	MTP-1093	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3672	MTP-1094	Non-Site	2092	Scarp 2009. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3673	MTP-1095	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3674	MTP-1096	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3675	MTP-1097	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3676	MTP-1098	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3677	MTP-1099	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3678	MTP-1100	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3679	MTP-1101	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3680	MTP-1102	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3681	MTP-1103	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3682	MTP-1104	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3683	MTP-1105	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3684	MTP-1106	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3685	MTP-1107	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3686	MTP-1108	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.

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37-2-3687	MTP-1109	Artefact Scatter		Scarp 2009. Adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3688	MTP-1110	Artefact Scatter		Scarp 2009. Adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3689	MTP-1111	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3690	MTP-1112	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3691	MTP-1113	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3692	MTP-1114	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3693	MTP-1115	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3694	MTP-1116	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3695	MTP-1117	Artefact Scatter		Scarp 2009. Adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3696	MTP-1118	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Approved AHIP strategy - collection.	Surface collection.	Total loss of value	No change.
37-2-3697	MTP-1119	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3698	MTP-1120	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-3699	MTP-1121	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3700	MTP-1122	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3701	MTP-1123	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3702	MTP-1124	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3703	MTP-1125	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3704	MTP-1126	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3705	MTP-1127	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3706	MTP-1128	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3707	MTP-1129	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3708	MTP-1130	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3709	MTP-1131	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-3710	MTP-1132	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3711	MTP-1133	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3712	MTP-1134	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3713	MTP-1135	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3714	MTP-1136	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3715	MTP-1137	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3716	MTP-1138	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3717	MTP-1139	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3718	MTP-1140	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3719	MTP-1141	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

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37-2-3720	MTP-1142	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3721	MTP-1143	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3722	MTP-1144	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3723	MTP-1145	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3724	MTP-1146	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3725	MTP-1147	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3726	MTP-1148	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3727	MTP-1149	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3728	MTP-1150	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3729	MTP-1151	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3730	MTP-1152	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3731	MTP-1153	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
37-2-3732	MTP-1154	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3733	MTP-1155	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3734	MTP-1156	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3735	MTP-1157	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3736	MTP-1158	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3737	MTP-1159	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3738	MTP-1160	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3739	MTP-1161	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3740	MTP-1162	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3741	MTP-1163	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3742	MTP-1164	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3743	MTP-1165	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3744	MTP-1166	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3745	MTP-1167	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3746	MTP-1168	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3747	MTP-1169	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3748	MTP-1170	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3749	MTP-1171	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3750	MTP-1172	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3751	MTP-1173	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3752	MTP-1174	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3753	MTP-1175	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3754	MTP-1176	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3755	MTP-1177	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3756	MTP-1178	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3757	MTP-1179	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3758	MTP-1180	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3759	MTP-1181	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3760	MTP-1182	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3761	MTP-1183	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3762	MTP-1184	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3763	MTP-1185	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3764	MTP-1186	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3765	MTP-1187	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3766	MTP-1188	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3767	MTP-1189	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3768	MTP-1190	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3769	MTP-1191	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3770	MTP-1192	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3771	MTP-1193	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3772	MTP-1194	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3773	MTP-1195	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3774	MTP-1196	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3775	MTP-1197	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3776	MTP-1198	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3777	MTP-1199	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-3778	MTP-1200	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3779	MTP-1201	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3780	MTP-1202	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3781	MTP-1203	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3782	MTP-1204	Artefact Scatter		Scarp 2009. On margin of AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3783	MTP-1205	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3784	MTP-1206	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3785	MTP-1207	Artefact Scatter		Scarp 2009. On margin of AHIP 2092 area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3786	MTP-1208	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3787	MTP-1209	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-3788	MTP-1210	Artefact Scatter	2092	Scarp 2009. Marginally within and may extend outside AHIP 2092 area.	In situ	Low	SSD Zone B1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-3789	MTP-1211	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3790	MTP-1212	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3791	MTP-1213	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3792	MTP-1214	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3793	MTP-1215	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3794	MTP-1216	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3795	MTP-1217	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3796	MTP-1218	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3797	MTP-1219	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3798	MTP-1220	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3799	MTP-1221	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3800	MTP-1222	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3801	MTP-1223	Artefact Scatter	2092	Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3802	MTP-1224	Artefact Scatter		Scarp 2009.	Conservation Area C	Moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3803	MTP-1225	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3804	MTP-1226	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3805	MTP-1227	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3806	MTP-1228	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3807	MTP-1229	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3808	MTP-1230	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-3809	MTP-1231	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3810	MTP-1232	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3811	MTP-1233	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3812	MTP-1234	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3813	MTP-1235	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3814	MTP-1236	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3815	MTP-1237	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3816	MTP-1238	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3817	MTP-1239	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3818	MTP-1240	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3819	MTP-1241	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3820	MTP-1242	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3821	MTP-1243	Isolated Artefact		Scarp 2009. Immediately adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3822	MTP-1244	Isolated Artefact		Scarp 2009. Immediately adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3823	MTP-1245	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3824	MTP-1246	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3825	MTP-1247	Isolated Artefact		Scarp 2009. Immediately adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3826	MTP-1248	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3827	MTP-1249	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3828	MTP-1250	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3829	MTP-1251	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3830	MTP-1252	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3831	MTP-1253	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3832	MTP-1254	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3833	MTP-1255	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3834	MTP-1256	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3835	MTP-1257	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3836	MTP-1258	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3837	MTP-1259	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3838	MTP-1260	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3839	MTP-1261	Isolated Artefact		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3840	MTP-1262	Isolated Artefact	2053	Scarp 2009.	Salvaged by Bengalla (AECOM 2017).		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3841	MTP-1263	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3842	MTP-1264	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3843	MTP-1265	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3844	MTP-1266	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3845	MTP-1267	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3846	MTP-1268	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3847	MTP-1269	Non-Site	2053	Scarp 2009. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3848	MTP-1270	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3849	MTP-1271	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3850	MTP-1272	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3851	MTP-1273	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3852	MTP-1274	Non-Site	2053	Scarp 2009. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-3853	MTP-1275	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3854	MTP-1276	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3855	MTP-1277	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3856	MTP-1278	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3857	MTP-1279	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3858	MTP-1280	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3859	MTP-1281	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3860	MTP-1282	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3861	MTP-1283	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3862	MTP-1284	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3863	MTP-1285	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3864	MTP-1286	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3865	MTP-1287	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3866	MTP-1288	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3867	MTP-1289	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3868	MTP-1290	Artefact Scatter		Scarp 2009. Adjacent to AHIP 2092 area.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3869	MTP-1291	Artefact Scatter	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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37-2-3870	MTP-1292	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3871	MTP-1293	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3872	MTP-1294	Isolated Artefact	2092	Scarp 2009.	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3873	MTP-1295	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3874	MTP-1296	Artefact Scatter		Scarp 2009.	In situ	Low	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.
37-2-3875	MTP-1297	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1R - C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3876	MTP-1298	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3877	MTP-1299	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-3878	MTP-1300	Artefact Scatter	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3879	MTP-1301	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-3880	MTP-1302	Artefact Scatter		Scarp 2009.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-3881	MTP-1303	Isolated Artefact	2053	Scarp 2009.	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4034	MTP-313	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4035	MTP-314	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4036	MTP-315	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4037	MTP-316	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4038	MTP-317	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4039	MTP-318	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4040	MTP-319	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4041	MTP-320	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4042	MTP-321	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4043	MTP-322	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4044	MTP-323	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4045	MTP-324	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4046	MTP-325	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4047	MTP-326	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4048	MTP-327	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4049	MTP-328	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4050	MTP-329	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4051	MTP-330	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4052	MTP-331	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4053	MTP-332	Artefact Scatter	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4054	MTP-333	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-4055	MTP-334	Artefact Scatter	2092	McCardle 2007. Probably equates to #37-2-0566 (Castle Rock Road 1). Site extends over 120 x 30 metre area.	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4056	MTP-335	Artefact Scatter	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4057	MTP-336	Artefact Scatter	2092	McCardle 2007.	Salvaged by South East Archaeology, December 2018-February 2019.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4058	MTP-337	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4059	MTP-338	Isolated Artefact	2053	McCardle 2007. Incorrectly reported on OEH Site Record as AGD when mapping and report indicates GDA as listed here.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4060	MTP-1400	Isolated Artefact	2053	Scarp 2011.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4061	MTP-1413	Artefact Scatter	2053	Scarp 2011.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C or Outside SSD Area	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4062	MTP-1460	Artefact Scatter	2053	Scarp 2011.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4063	MTP-1462	Artefact Scatter	2053	Scarp 2011.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4064	MTP-1693	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4065	MTP-1694	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4066	MTP-1695	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4067	MTP-1696	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4068	MTP-1697	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4069	MTP-1698	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4070	MTP-1699	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4071	MTP-1700	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4072	MTP-1701	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4073	MTP-1702	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4074	MTP-1715	Artefact Scatter	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4075	MTP-1717	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4076	MTP-1718	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4077	MTP-1719	Artefact Scatter	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4078	MTP-1720	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4079	MTP-1721	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4080	MTP-1722	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4081	MTP-1723	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4082	MTP-1724	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4083	MTP-1725	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4084	MTP-1726	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4085	MTP-1727	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4086	MTP-1728	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4087	MTP-1729	Artefact Scatter	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4088	MTP-1730	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4089	MTP-1731	Isolated Artefact	2053	Scarp 2011.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4090	MTP-1732	Non-Site	2053	Scarp 2011. Site record incorrectly states #37-2-4096. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4091	MTP-1733	Isolated Artefact	2053	Scarp 2011. Site record incorrectly states #37-2-4090.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4092	MTP-1736	Isolated Artefact	2053	Scarp 2011. Site record incorrectly states #37-2-4091.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4093	MTP-1737	Isolated Artefact	2053	Scarp 2011. Site record incorrectly states #37-2-4092.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4094	MTP-1738	Artefact Scatter	2053	Scarp 2011. Site record incorrectly states #37-2-4093.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4095	MTP-1739	Artefact Scatter	2053	Scarp 2011. Site record incorrectly states #37-2-4094.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4096	MTP-1740	Isolated Artefact	2053	Scarp 2011. Site record incorrectly states #37-2-4095.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4437	BM-AS 05-12	Artefact Scatter		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4438	BM-AS 06-12	Artefact Scatter		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4439	BM-AS 07-12	Artefact Scatter	2053	Equates to MTP-1706.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4440	BM-AS 08-12	Artefact Scatter		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4441	BM-AS 09-12	Artefact Scatter		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4443	BM-AS 11-12	Artefact Scatter		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4444	BM-AS 12-12	Artefact Scatter		Aecom 2012. Site extends over 240 x 80 metres.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4445	BM-AS 13-12	Artefact Scatter		Aecom 2012. Site extends over 70 x 20 metres.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4446	BM-AS 14-12	Artefact Scatter		Aecom 2012. Site extends over 40 x 20 metres. Outside Database Area but may extend to within.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C or Outside SSD Area	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4448	BM-AS 16-12	Artefact Scatter		Aecom 2012. Site extends over 570 x 300 metre area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4449	BM-AS 17-12	Artefact Scatter	2053	Site extends over 20 x 20 metres.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4450	BM-AS 18-12	Artefact Scatter	Part possibly in 2053	Site extends over 210 x 20 metres. Only small part may be within AHIP 2053 area, most may be outside AHIP area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4451	BM-AS 19-12	Artefact Scatter	Part possibly in 2053	Aecom 2012. Site extends over 60 x 30 metres. Portion may be within AHIP 2053 area.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4452	BM-AS 20-12	Artefact Scatter		AECOM 2012. Outside Database Area but may extend to within.	In situ	Low	SSD Zone C or Outside SSD Area	n/a	n/a	n/a	Probably outside SSD Area.	Avoid impacts.	n/a	No change.
37-2-4453	BM-AS 21-12	Artefact Scatter		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4455	BM-AS 23-12	Artefact Scatter		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4456	BM-AS 24-12	Artefact Scatter		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4457	BM-AS 25-12	Artefact Scatter		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4459	BM-IA 01-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C or Outside SSD Area	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4460	BM-IA 02-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-4461	BM-IA 03-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4462	BM-IA 04-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-4463	BM - IA 05-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4464	BM - IA 06-12	Isolated Artefact	2053	AECOM 2012. Equates to MTP-1714.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4465	BM - IA 07-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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37-2-4466	BM - IA 08-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4467	BM - IA 09-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4468	BM - IA 10-12	Isolated Artefact		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4469	BM - IA 11-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4470	BM - IA 12-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4471	BM - IA 13-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4474	BM - IA 16-12	Isolated Artefact		AECOM 2012. Outside Database Area but may extend to within.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C or Outside SSD Area	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4475	BM - IA 17-12	Artefact Scatter		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4476	BM - IA 18-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4477	BM - IA 19-12	Isolated Artefact		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-4478	BM - IA 20-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4479	BM - IA 21-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4480	BM - IA 22-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4481	BM - IA 23-12	Isolated Artefact		AECOM 2012.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4482	MTP-AS01-12	Artefact Scatter	2053	30 x 20 metre area. AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4484	MTP-AS03-12	Artefact Scatter	Part in 2053	AECOM 2012. Marginally outside AHIP 2053 area but extends to within it. 30 x 20 metre area.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-4485	MTP-IA01-12	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
37-2-4486	MTP-IA02-12	Isolated Artefact	2053	AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-4886	BCA-001	Artefact Scatter with PAD		Scarp 2010. Site and PAD extends over 110 x 75 metres and includes MTP-1304-1307.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

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37-2-4887	BCA-002	Artefact Scatter with PAD		Scarp 2010. Site extends over 40 x 40 metres and includes MTP-1308-1310 and 1315 and PAD extends over 90 x 90 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4888	BCA-003	Artefact Scatter with PAD		Scarp 2010. Site extends over 200 x 100 metres and includes MTP-1311, 1312 and 1314.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4889	BCA-004	Isolated Artefact with PAD		Scarp 2010. Site includes MTP 1313 and PAD over 50 x 50 metre area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4890	BCA-005	Isolated Artefact		Scarp 2010. Site includes MTP 1316.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4891	BCA-006	Artefact Scatter		Scarp 2010. Site includes MTP 1317 and 1318.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4892	BCA-007	Isolated Artefact		Scarp 2010. Site includes MTP 1319.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

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37-2-4893	BCA-009	Artefact Scatter with PAD		Scarp 2010. Site extends over 250 x 50 metres and includes MTP-1321-1331 and PAD over additional 50 metre wide area.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4894	BCA-010	Artefact Scatter with PAD		Scarp 2010. Site extends over 150 x 100 metres and includes MTP-1332.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4895	BCA-008	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area A. No further action required.	Nil	Conservation Area A	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4896	BCA-011	Artefact Scatter with PAD		Scarp 2010. Site extends over 5 x 5 metres and includes MTP-1333 and PAD of 50 x 50 metres.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4897	BCA-012	Artefact Scatter with PAD		Scarp 2010. Site extends over 10 x 10 metres and includes MTP-1334 and PAD of 50 metres diameter.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4898	BCA-013	Isolated Artefact with PAD		Scarp 2010. Site includes MTP-1335 and PAD of 50 metres diameter.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4899	BCA-014	Artefact Scatter with PAD		Scarp 2010. Site includes MTP-1336 and PAD of 50 metres diameter.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".

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37-2-4900	BCA-015	Artefact Scatter with PAD		Scarp 2010. Site extends over 50 x 20 metres and includes MTP-1337, 1446 and 1447 and additional PAD of 50 metres diameter from each artefact.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4901	BCA-016	Artefact Scatter with PAD		Scarp 2010. Site extends over 100 x 10 metres and includes MTP-1338-1344 and PAD of about 100 x 60 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4902	BCA-017	Artefact Scatter with PAD		Scarp 2010. Site extends over 5 x 5 metres and includes MTP-1345 and PAD of 50 metres diameter.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4903	BCA-018	Artefact Scatter		Scarp 2010. Site extends over 225 x 150 metres and includes MTP 1348 and 1367-1374.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4904	BCA-019	Artefact Scatter with PAD		Scarp 2010. Site extends over 30 x 10 metres and includes MTP 1349 and 1350 and a PAD extending over an additional 50 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4905	BCA-020	Isolated Artefact		Scarp 2010. Includes MTP 1351.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4906	BCA-021	Isolated Artefact		Scarp 2010. Includes MTP 1352.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

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37-2-4907	BCA-022	Artefact Scatter with PAD	Part in 2053	Scarp 2010. Includes MTP 1353 and 1354. Salvaged as MTP-1353 by RPS 2018. AHIMS data has BCA-022 (37-2-4907) at GDA 29**01**84:6431037, a probable easting error, as Scarp (2010) report site at 29**10**97:6431013 and 29**10**63:6431058, at location of site MTP-1353 salvaged by RPS (2018). Corrected here with the approximate mid-point. MTP1354 in Conservation Area A, in situ.	Partially within Conservation Area A, partly AHIP 2053. Partly salvaged by RPS (2018)		Conservation Area A and SSD Zone C	n/a	n/a	n/a	Part within Zone C salvaged under existing approval. Part within Conservation Area A.	Salvaged under existing approval within Zone C, no further action required. Conservation for portion within Conservation Area A.	n/a	No change.
37-2-4908	BCA-023	Artefact Scatter with PAD		Scarp 2010. Site extends over 150 x 90 metres and includes MTP 1355-1358 and 1380-1384 and PAD extending over 250 x 140 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4909	BCA-024	Artefact Scatter with PAD		Scarp 2010. Site extends over 110 x 50 metres and includes MTP-1359, 1363, 1377-1379 and a PAD extending over 110 x 100 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4910	BCA-025	Artefact Scatter with PAD		Scarp 2010. Site extends over 30 x 10 metres and includes MTP 1360-1362, PAD extending over 30 x 60 metres, and silcrete source - possible lithic quarry.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

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37-2-4911	BCA-026	Isolated Artefact with PAD		Scarp 2010. Includes MTP 1364 and located within BCA-026 to BCA-030 PAD of 120 x 40 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4912	BCA-027	Isolated Artefact with PAD		Scarp 2010. Includes MTP 1365 and located within BCA-026 to BCA-030 PAD of 120 x 40 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4913	BCA-028	Artefact Scatter with PAD		Scarp 2010. Includes MTP 1366 and located within BCA-026 to BCA-030 PAD of 120 x 40 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4914	BCA-029	Isolated Artefact with PAD		Scarp 2010. Includes MTP 1375 and located within BCA-026 to BCA-030 PAD of 120 x 40 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4915	BCA-030	Isolated Artefact with PAD		Scarp 2010. Includes MTP 1376 and located within BCA-026 to BCA-030 PAD of 120 x 40 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4916	BCA-031	Artefact Scatter with PAD		Scarp 2010. Site extends over 90 x 80 metres and includes MTP 1385-1391 and PAD of 190 x 180 metres. Silcrete source reported.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4917	BCA-032	Artefact Scatter		Scarp 2010. Site extends over 30 x 25 metres and includes MTP 1392 and a silcrete source.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".

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37-2-4918	BCA-033	Isolated Artefact		Scarp 2010. Includes MTP 1393.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4919	BCA-034	Isolated Artefact		Scarp 2010. Includes MTP 1394.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4920	BCA-035	Artefact Scatter		Scarp 2010. Site extends over 10 x 10 metres and includes MTP 1395 and 1396.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4921	BCA-036	Artefact Scatter		Scarp 2010. Site extends over 15 x 5 metres and includes MTP 1397 and 1464.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4922	BCA-037	Artefact Scatter		Scarp 2010. Includes MTP 1398.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4923	BCA-038	Isolated Artefact		Scarp 2010. Includes MTP 1465.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4924	BCA-039	Artefact Scatter		Scarp 2010. Includes MTP 1399 and silcrete source.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4925	BCA-040	Artefact Scatter		Scarp 2010. Site extends over 30 x 20 metres and includes MTP 1466.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4926	BCA-041	Isolated Artefact		Scarp 2010. Includes MTP 1467.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

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37-2-4927	BCA-042	Artefact Scatter		Scarp 2010. Site extends over 580 x 280 metres and includes MTP 1468-1480 and silcrete source. Over 200 artefacts.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4928	BCA-043	Isolated Artefact with PAD		Scarp 2010. Includes MTP 1481 and PAD of 50 metre diameter.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4929	BCA-044	Artefact Scatter with PAD		Scarp 2010. Site extends over 400 x 160 metres and includes MTP 1482 and 1485-1502 and PAD over same area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4930	BCA-045	Artefact Scatter with PAD		Scarp 2010. Site includes MTP 1483 and PAD over 50 metre diameter area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4931	BCA-046	Isolated Artefact with PAD		Scarp 2010. Site includes MTP 1484 and PAD over 50 metre diameter area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4932	BCA-047	Artefact Scatter with PAD		Scarp 2010. Site extends over 380 x 160 metres and includes MTP 1503 and 1506-1510 and PAD over larger area. Over 1000 artefacts estimated.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".

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37-2-4933	BCA-048	Isolated Artefact with PAD		Scarp 2010. Site includes MTP 1504 and PAD over 50 metre diameter area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4934	BCA-049	Artefact Scatter with PAD		Scarp 2010. Site includes MTP 1505 and PAD over 50 metre diameter area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4935	BCA-050	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area B. No further action required.	Nil	Outside SSD Area	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4936	BCA-051	Artefact Scatter with PAD		Scarp 2010. Site extends over 220 x 60 metres and includes MTP 1512-1518, 1520, 1521 and 1528, and PAD over 320 x 110 metre area.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4937	BCA-052	Artefact Scatter		Scarp 2010. Includes MTP-1522.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4938	BCA-053	Artefact Scatter		Scarp 2010. Includes MTP-1525. Incorrectly listed on AHIMS as AGD when in fact GDA as listed here.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".

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37-2-4939	BCA-054	Artefact Scatter		Scarp 2010. Includes MTP-1526.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4940	BCA-055	Isolated Artefact		Scarp 2010. Incorrect grid reference on earlier databases. AHIMS northing 6431349 incorrect. AHIMS report of site destroyed/RPS cannot be correct.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4941	BCA-056	Artefact Scatter		Scarp 2010. Site extends over 5 x 5 metres and includes MTP 1527.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4942	BCA-057	Artefact Scatter with PAD		Scarp 2010. Site extends over about 70 x 10 metres and includes MTP 1529 and 1530 and a PAD over the same area plus 50 metres diameter.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4943	BCA-058	Artefact Scatter with PAD		Scarp 2010. Site extends over about 250 x 20 metres and includes MTP 1531-1533 and a PAD over an area of about 250 x 70 metres.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4944	BCA-059	Isolated Artefact		Scarp 2010. Includes MTP-1534.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".

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37-2-4945	BCA-060	Artefact Scatter with PAD		Scarp 2010. Site extends over about 200 x 30 metres and includes MTP 1535-1538 and a PAD over an area of about 300 x 30 metres.	Conservation Area B		Outside SSD Area	None	None	No loss of value	Provisional Conservation Area B, to be offset in another location and/or manner.	Avoid impacts. Implement alternative Conservation offset for Area B.	No loss of value	"Conservation", to be offset elsewhere, to "avoid impacts".
37-2-4946	BCA-061	Artefact Scatter		Scarp 2010. Site extends over 140 x 30 metres and includes MTP 1540, 1541 and 1554-1556.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4947	BCA-062	Isolated Artefact		Scarp 2010. Includes MTP-1542.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4948	BCA-063	Artefact Scatter		Scarp 2010. Site extends over about 210 x 150 metres and includes MTP 1543-1553 and 1566.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4949	BCA-064	Artefact Scatter		Scarp 2010. Includes MTP-1557.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4950	BCA-065	Isolated Artefact		Scarp 2010. Includes MTP-1558.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4951	BCA-066	Artefact Scatter		Scarp 2010. Includes MTP-1559 and 1560.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4952	BCA-067	Artefact Scatter		Scarp 2010. Site extends over 80 x 40 metres and includes MTP-1561 and 1563-1565.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

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37-2-4953	BCA-068	Artefact Scatter		Scarp 2010. Site extends over 120 x 55 metres and includes MTP 1562 and 1642-1649.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4954	BCA-069	Isolated Artefact		Scarp 2010. Includes MTP-1567.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4955	BCA-070	Artefact Scatter		Scarp 2010. Site extends over 220 x 5 metres and includes MTP 1568-1572.	Conservation Area A and Conservation Area C	Moderate	Conservation Area A and SSD Zone C	Possibly direct or none	Possibly partial or none	Possibly partial or no loss of value	Within Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Part within Conservation Area A.	Conservation for portion within Conservation Area A. Reassess impacts in Zone C with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly partial or no loss of value	Possibly no change or increase.
37-2-4956	BCA-071	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area C. No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4957	BCA-072	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area A. No further action required.	Nil	Conservation Area A	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4958	BCA-073	Artefact Scatter		Scarp 2010. Site extends over 20 x 5 metres and includes MTP-1576 and 1577.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-4959	BCA-074	Artefact Scatter		Scarp 2010. Site extends over 180 x 5 metres and includes MTP-1578 and 1586.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4960	BCA-075	Artefact Scatter		Scarp 2010. Site extends over 360 x 70 metres and includes MTP-1579, 1580, 1585, 1671 and 1672.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4961	BCA-076	Isolated Artefact		Scarp 2010. Includes MTP-1581.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4962	BCA-077	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area A. No further action required.	Nil	Conservation Area A	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4963	BCA-078	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area A. No further action required.	Nil	Conservation Area A	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4964	BCA-079	Isolated Artefact		Scarp 2010. Includes MTP-1587.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4965	BCA-080	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area A. No further action required.	Nil	Conservation Area A	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-4966	BCA-081	Isolated Artefact		Scarp 2010. Includes MTP-1589.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4967	BCA-082	Artefact Scatter		Scarp 2010. Includes MTP-1590 and 1591.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4968	BCA-083	Isolated Artefact		Scarp 2010. Includes MTP-1592.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4969	BCA-084	Non-Site		Scarp 2010. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	Conservation Area A. No further action required.	Nil	Conservation Area A	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
37-2-4970	BCA-085	Isolated Artefact		Scarp 2010. Includes MTP-1594.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4971	BCA-086	Artefact Scatter		Scarp 2010. Site extends over 100 x 10 metres and includes MTP-1595-1597.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4972	BCA-087	Artefact Scatter		Scarp 2010. Site extends over 20 x 5 metres and includes MTP-1598 and 1599.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4978	BCA-088	Artefact Scatter		Scarp 2010. Site extends over 40 x 15 metres and includes MTP-1600.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4979	BCA-089	Artefact Scatter		Scarp 2010. Site extends over 340 x 100 metres and includes MTP-1601-1608, 1625 and 1632-1638.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-4980	BCA-090	Artefact Scatter with PAD		Scarp 2010. Site extends over 120 x 50 metres and includes MTP-1609-1610 and 1639-1641 and PAD of about the same area.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4981	BCA-091	Artefact Scatter		Scarp 2010. Site extends over 120 x 120 metres and includes MTP-1611-1613 and 1618-1623.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4982	BCA-092	Artefact Scatter		Scarp 2010. Site extends over 50 x 50 metres and includes MTP-1614-1617 and 1690-1691.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4983	BCA-093	Artefact Scatter		Scarp 2010. Site extends over 40 x 20 metres and includes MTP-1624 and 1626-1631.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4984	BCA-094	Artefact Scatter		Scarp 2010. Site extends over 150 x 100 metres and includes MTP-1650-1655.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4985	BCA-095	Artefact Scatter		Scarp 2010. Site extends over 250 x 5 metres and includes MTP-1656 and 1657.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4986	BCA-096	Artefact Scatter		Scarp 2010. Site extends over 400 x 150 metres and includes MTP-1658-1669.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4988	BCA-098	Artefact Scatter		Scarp 2010. Site extends over 120 x 5 metres and includes MTP-1673 and 1684.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-4989	BCA-099	Artefact Scatter		Scarp 2010. Site extends over 70 x 55 metres and includes MTP-1674-1680.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4990	BCA-100	Isolated Artefact		Scarp 2010. Includes MTP-1681.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4991	BCA-101	Artefact Scatter		Scarp 2010. Site extends over 50 x 5 metres and includes MTP-1682 and 1689.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4992	BCA-102	Artefact Scatter with PAD		Scarp 2010. Site extends over 10 x 5 metres and includes MTP-1683 and 1686-1688 and PAD of about 50 x 50 metres.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-4993	BCA-103	Isolated Artefact		Scarp 2010. Includes MTP-1685.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-4994	BCA-104	Isolated Artefact		Scarp 2010. Includes MTP-1692.	Conservation Area A		Conservation Area A	None	None	No loss of value	Approved conservation area.	Conservation.	No loss of value	No change. Outside SSD Area.
37-2-5072	BM-AS27-15	Artefact Scatter	2053	AECOM 2015.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-5073	BM-IAS24-15	Isolated Artefact	2053	AECOM 2015.	Salvaged by Bengalla (AECOM 2017).		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-5426	BM-IA24-14	Isolated Artefact		AECOM 2012.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-5471	MPO Water Pipeline 2/A	Isolated Artefact		Recorded by SEA during water pipeline survey October 2016	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-5472	MPO Water Pipeline 3/A	Artefact Scatter		Recorded by SEA during water pipeline survey October 2016	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
37-2-5478	MTP-1789	Open Artefact Site	2053	RPS 2018.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-5479	MTP-1788	Open Artefact Site	2053	RPS 2018.	Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
37-2-5570	Bengalla Road Isolated Artefact	Isolated Artefact		Reported on AHIMS as 'Destroyed'. Recorded by Extent Heritage.	Possibly salvaged by Bengalla.	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Any impacts subject to detailed design. Confirmation of Bengalla salvage required.	Confirm if salvaged. Reassess impacts with detailed design and significance. If salvaged, no further action. Othewise, manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37-2-5944	MTP-1741	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B3	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-5945	MTP-1742	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B4	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-5946	MTP-1743	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B4	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-5947	MTP-1744	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B4	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-5948	MTP-1745	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B4	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-5949	MTP-1746	Artefact Scatter		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B4	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
37-2-5950	MTP-1747	Isolated Artefact		Recorded by South East Archaeology during SSD survey November 2019.	In situ	Low	SSD Zone B3	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
MTP-111	MTP-111	Non-Site		Recorded by HLA 2007. Reassessed by South East Archaeology, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
MTP-457	MTP-457	Spiritual Place	2053	Roberts 2007. Cultural value, not an Aboriginal object. Not listed on OEH AHIMS.	No further action required.	Uncertain	SSD Zone A1	Direct	Total	Total loss of value	Offset by other measures.	No further action required.	Total loss of value	No change.

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MTP-517	MTP-517	Non-Site	2053	Recorded by Roberts 2007. Reassessed by Rio Tinto, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone C	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
MTP-792	MTP-792	Non-Site		Recorded by Anderson 2007. Reassessed by Rio Tinto, not an Aboriginal scarred tree.	No further action required.	Nil	SSD Zone A1	n/a	n/a	n/a	Not an Aboriginal site.	No further action required.	n/a	n/a
MTP-1353	MTP-1353	Open Artefact Site	2053	AHIMS data has BCA-022 (37-2-4907) at GDA 290184:6431037, a probable easting error, as Scarp (2010) report has site at 291097:6431013 and 291063:6431058, at location of site MTP-1353 salvaged by RPS (2018).	Salvaged by RPS 2018.		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1401	MTP-1401	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1402	MTP-1402	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1403	MTP-1403	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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MTP-1404	MTP-1404	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1405	MTP-1405	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1406	MTP-1406	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1407	MTP-1407	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1408	MTP-1408	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1409	MTP-1409	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1410	MTP-1410	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1411	MTP-1411	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
MTP-1412	MTP-1412	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

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MTP-1414	MTP-1414	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1415	MTP-1415	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1416	MTP-1416	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1417	MTP-1417	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017).		SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1418	MTP-1418	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1419	MTP-1419	Scarred Tree	2053	Recorded by Scarp 2010. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1420	MTP-1420	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

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MTP-1421	MTP-1421	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1422	MTP-1422	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1423	MTP-1423	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1424	MTP-1424	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1425	MTP-1425	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1426	MTP-1426	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1427	MTP-1427	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1428	MTP-1428	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1429	MTP-1429	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1430	MTP-1430	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1431	MTP-1431	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1432	MTP-1432	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1433	MTP-1433	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1434	MTP-1434	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1435	MTP-1435	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1436	MTP-1436	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1437	MTP-1437	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1438	MTP-1438	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1439	MTP-1439	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1440	MTP-1440	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1441	MTP-1441	Scarred Tree	2053	Recorded by Scarp 2010. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1442	MTP-1442	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1443	MTP-1443	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1444	MTP-1444	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1445	MTP-1445	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1446	MTP-1446	Scarred Tree	2053	Recorded by Scarp 2010. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1447	MTP-1447	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1448	MTP-1448	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1449	MTP-1449	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1450	MTP-1450	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1451	MTP-1451	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1452	MTP-1452	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1453	MTP-1453	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1454	MTP-1454	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required. 25 x 25 metre extent.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1455	MTP-1455	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1456	MTP-1456	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1457	MTP-1457	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1458	MTP-1458	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1459	MTP-1459	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Salvaged by Bengalla (AECOM 2017). Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1461	MTP-1461	Isolated Artefact	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1463	MTP-1463	Artefact Scatter	2053	Recorded by Scarp 2010. OEH number/site record lodgement required.	Was within MPO approved Development Consent boundary but now outside SSD Area in Bengalla Mine approved disturbance boundary.		Outside SSD Area	None	None	No loss of value	Outside SSD Area.	Avoid impacts.	No loss of value	Reduced impact.
MTP-1703	MTP-1703	Scarred Tree		Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1704	MTP-1704	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1705	MTP-1705	Isolated Artefact		Recorded by Scarp 2015. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1707	MTP-1707	Isolated Artefact	2053	Recorded by Scarp 2015. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1708	MTP-1708	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1709	MTP-1709	Isolated Artefact	2053	Recorded by Scarp 2015. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1710	MTP-1710	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1711	MTP-1711	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MTP-1712	MTP-1712	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1713	MTP-1713	Scarred Tree	2053	Recorded by Scarp 2015. OEH number/site record lodgement required. Reassessment of validity of scarred tree required.	Requires scarred tree reassessment.		SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Origin of scar uncertain.	Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1716	MTP-1716	Isolated Artefact	2053	Recorded by Scarp 2012. OEH number/site record lodgement required.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MTP-1800	MTP-1800	Isolated Artefact	2092	Recorded by South East Archaeology during salvage in 2018 and subject to surface collection under AHIP #2092.	Salvaged by South East Archaeology 2018.		SSD Zone B1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
PAD No 4	PAD No 4	Artefact Scatter	2053	Artefacts found in Test Unit 12 by Cameron and Deacon (2016) and reburied in test unit but not registered on AHIMS or previous RTCA maintained Site Databases.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection (retrieval of reburied artefacts). If already impacted, no further action required.	n/a	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
PAD No 34	PAD No 34	Artefact Scatter	2053	Artefacts found in Test Unit 68 by Cameron and Deacon (2016) and reburied in test unit but not registered on AHIMS or previous RTCA maintained Site Databases.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection (retrieval of reburied artefacts). If already impacted, no further action required.	n/a	No change.
MP1	MP1	Artefact Scatter	2053	Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP2	MP2	Artefact Scatter	2053	Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends along track for 80 metres.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP3	MP3	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends along track for 80 metres. Probably corresponds to MTP-1225.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP4	MP4	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP5	MP5	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP6	MP6	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP7	MP7	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends along track for 46 metres.	Conservation Area C	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP8	MP8	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Site extends over 20 x 10 metre area.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
MP9	MP9	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. On margin of AHIP 2092 area.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP10	MP10	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
MP11	MP11	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
MP12	MP12	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP13	MP13	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone A4R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
MP14	MP14	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone A4R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
MP15	MP15	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP16	MP16	Artefact Scatter		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
MP17	MP17	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone B4	Direct	Total	Total loss of value	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
MP23	MP23	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
MP24	MP24	Isolated Artefact		Recorded by ERM (2006) during North-West Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Uncertain	SSD Zone B4	Direct	Total	Total loss of value	Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
1	1	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 40 x 30 metre area.	In situ	Low-moderate	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
2	2	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-734. Extends over 25 x 5 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
3	3	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 20 x 3 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
4	4	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 20 x 10 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
5	5	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-746. Extends over 100 x 20 metre area.	In situ	Low-moderate	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
6	6	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-1012. Extends over 100 x 50 metre area.	Probably salvaged by RPS 2018.	Moderate	SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.
7	7	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 50 x 50 metre area.	In situ	Low-moderate	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
8	8	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 8 x 5 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
9	9	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 25 x 10 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
10	10	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-20 to 23, 775 and maybe 778. Extends over 50 x 50 metre area.	Impacted, not salvaged.	Moderate-high	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
11	11	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-773. Extends over 70 x 15 metre area.	Impacted, not salvaged.	Low-moderate	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
12	12	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-783. Extends over 5 x 5 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
13	13	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-753. Extends over 70 x 20 metre area.	Impacted, not salvaged.	Moderate	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
14	14	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 25 x 15 metre area.	Impacted, not salvaged.	Low-moderate	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
15	15	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 5 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
16	16	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 50 x 15 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
17	17	Scarred Tree	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Does not correspond to nearby MTP-754 (artefact scatter).	Impacted, not salvaged.	Moderate-high	SSD Zone A1	n/a	n/a	n/a	Origin of scar uncertain. Reassessment of scar and possibly salvage required under AHIP but not undertaken prior to impacts.	No further action required.	n/a	No change.
18	18	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 2 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
19	19	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds partially to MTP-788. Extends over 60 x 10 metre area.	In situ	Low	SSD Zone B1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
20	20	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 10 metre area.	Possibly *in situ*, or possibly impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
21	21	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
22	22	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
23	23	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-873. Extends over 25 x 20 metre area.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
24	24	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone B1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
25	25	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
26	26	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
27	27	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
28	28	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-855. Extends over 40 x 5 metre area.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
29	29	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 5 metre area.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
30	30	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 40 x 5 metre area.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
31	31	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 5 metre area.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
32	32	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 5 metre area.	Possibly *in situ*, or possibly impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
33	33	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-830. Extends over 30 x 5 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
34	34	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-813.	MTP-813 (#37-2-3391) salvaged by RPS 2018.	Low	SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
35	35	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-800.	Salvaged by RPS 2018.	Low	SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
36	36	Scarred Tree	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Possibly *in situ*, or possibly impacted, not salvaged.	Moderate-high	SSD Zone A1	n/a	n/a	n/a	Impacts uncertain. Origin of scar uncertain.	Reassess impacts. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
37	37	Scarred Tree and Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Moderate-high	SSD Zone B1	Direct	Total	Total loss of value	Impacts uncertain. Origin of scar uncertain.	Reassess impacts. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.	Total loss of value	Increase.
38	38	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 20 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
39	39	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 75 x 50 metre area.	Possibly *in situ*, or possibly impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
40	40	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Possibly *in situ*, or possibly impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
41	41	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-833. Extends over 50 x 40 metre area.	Impacted, not salvaged.	Low-moderate	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
42	42	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 50 x 10 metre area.	Impacted, not salvaged.	Low-moderate	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
43	43	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 5 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
44	44	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extensive site with 2,551 artefacts, probably corresponds to at least MTP-1074 to 1076, 1083 to 1087, 1061 to 1063, and PAD No 34.	Possibly partially *in situ* and partially impacted, not salvaged.	High	SSD Zone A1 and Zone C	Direct	Partial	Partial loss of value	Surface collection required under AHIP. ERM (2007) recommended management plan with Aboriginal stakeholders.	Manage as per SSD AHMP for site type, level of impacts and significance. If already partially impacted, no further action required (for that portion).	Partial loss of value	No change.
45	45	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 3 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
46	46	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
47	47	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 2 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
48	48	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 30 metre area.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
49	49	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Probably corresponds to MTP-700. Extends over 50 x 30 metre area.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
50	50	Scarred Tree		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Conservation Area C	Moderate-high	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain. Origin of scar uncertain. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
51	51	Isolated Artefact		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
52	52	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
53	53	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 20 x 15 metre area.	Conservation Area C	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
54	54	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 4 metre area.	Conservation Area C	Low-moderate	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
55	55	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 5 metre area.	Conservation Area C	Moderate	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
56	56	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 20 metre area.	Conservation Area C	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
57	57	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 1 metre area.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
58	58	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Conservation Area C	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
59	59	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 20 x 15 metre area.	Conservation Area C	Low-moderate	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
60	60	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 2.5 metre area.	Conservation Area C	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
61	61	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 12 x 2.5 metre area.	Conservation Area C	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
62	62	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 2 metre area.	Conservation Area C	Low-moderate	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
63	63	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 20 x 10 metre area.	Conservation Area C	Moderate	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
64	64	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 6 metre area.	Conservation Area C	Moderate-high	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Total loss of value	No change or increase.
65	65	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 5 metre area.	Conservation Area C	Low-moderate	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
66	66	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 70 metre area of gully.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
67	67	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 4 metre area.	In situ	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
68	68	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 50 x 50 metre area.	In situ	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
69	69	Isolated Artefact		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
70	70	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 15 x 5 metre area.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
71	71	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 15 x 10 metre area.	In situ	Low	SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
72	72	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 40 x 25 metre area.	In situ	Low	SSD Zone B1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
73	73	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone B1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	Increase.
74	74	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 30 x 20 metre area.	In situ	Low	SSD Zone B1 and Zone C	Direct	Total or partial	Total or partial loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total or partial loss of value	Increase.
75	75	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
76	76	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Possibly *in situ*, or possibly impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
77	77	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 10 x 3 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
78	78	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 20 x 3 metre area.	In situ	Low	SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
79	79	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
80	80	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	Equates to #37-2-3265. Salvaged by RPS 2018.	Low	SSD Zone C	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
81	81	Isolated Artefact	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
82	82	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 15 x 10 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
83	83	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-633. Extends over 25 x 5 metre area.	In situ	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
84	84	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 15 x 4 metre area.	Conservation Area C	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
85	85	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 15 x 7 metre area. Corresponds to 86.	Conservation Area C	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
86	86	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 1 x 1 metre area. Corresponds to 85.	Conservation Area C	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
87	87	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 12 x 10 metre area.	Conservation Area C	Low-moderate	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
88	88	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. May correspond to MTP-711 and/or 712. Extends over 50 x 10 metre area.	Conservation Area C	Low	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total, partial or no loss of value	Possibly no change or increase.
89	89	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 7 x 2 metre area.	Conservation Area C	Low	SSD Zone B2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	Surface collection. Implement alternative Conservation offset for Area C.	Total loss of value	Increase.
90	90	Artefact Scatter		Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 150 x 2 metre area.	Conservation Area C	Low-moderate	SSD Zone C and Zone B2	Direct	Possibly total or partial	Possibly total or partial loss of value	Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	Possibly total or partial loss of value	Increase.
91	91	Artefact Scatter	2053	Recorded by ERM (2007) during Fine Rejects Emplacement Area survey but not registered on AHIMS or previous RTCA maintained Site Databases. Extends over 5 x 1 metre area.	Impacted, not salvaged.	Low	SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
A5	A5	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A6	A6	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A9	A9	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A10	A10	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 9 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A11	A11	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A12	A12	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
A13	A13	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A14	A14	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A15	A15	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A16	A16	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A17	A17	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Equates to #37-2-2907. Salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
A18	A18	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
A19	A19	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A20	A20	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
A21	A21	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A22	A22	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A23	A23	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A24	A24	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
A25	A25	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A26	A26	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
A27	A27	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A28	A28	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
A29	A29	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A30	A30	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
A31	A31	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
A32	A32	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B1	B1	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
B2	B2	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B3	B3	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B4	B4	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B5	B5	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B6	B6	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
B7	B7	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B8	B8	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B9	B9	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B10	B10	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B11	B11	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B12	B12	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
B13	B13	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B14	B14	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B15	B15	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B16	B16	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B17	B17	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B18	B18	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B19	B19	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B20	B20	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
B24	B24	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
B25	B25	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
B26	B26	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B27	B27	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
B28	B28	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
B30	B30	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B31	B31	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B33	B33	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B34	B34	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B35	B35	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B37	B37	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B38	B38	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B39	B39	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
B40	B40	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
B41	B41	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
B42	B42	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
B43	B43	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
B44	B44	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
AB1	AB1	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
AB2	AB2	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 6 artefactS.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
AB3	AB3	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefactS.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
AB4	AB4	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
AB5	AB5	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
AB6	AB6	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
AB7	AB7	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
AB8	AB8	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted (by Bengalla), not salvaged.		SSD Zone C	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C2	C2	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C3	C3	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C4	C4	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C6	C6	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C7	C7	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
C8	C8	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C9	C9	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C10	C10	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C11	C11	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C12	C12	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C13	C13	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 5 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
C14	C14	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C15	C15	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone B1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	Increase.
C16	C16	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C17	C17	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefactS.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C18	C18	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
C19	C19	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C21	C21	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C22	C22	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C23	C23	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C24	C24	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C25	C25	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
C26	C26	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C27	C27	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact. May correspond to isolated artefact MTP-49 (OEH #37-2-2853) salvaged by RPS (2018) nearby.	Possibly salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Possibly salvaged under existing approval.	No further action required.	n/a	No change.
C28	C28	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact. May correspond to isolated artefact MTP-48 (OEH #37-2-2852) salvaged by RPS (2018) nearby.	Possibly salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Possibly salvaged under existing approval.	No further action required.	n/a	No change.
C29	C29	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
C30	C30	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C31	C31	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C32	C32	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
C33	C33	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D1	D1	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
D2	D2	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
D3	D3	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D4	D4	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D5	D5	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D6	D6	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D7	D7	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
D8	D8	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
D9	D9	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
D10	D10	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Possibly *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
D11	D11	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 5 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D12	D12	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D13	D13	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D14	D14	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
D15	D15	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D16	D16	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 6 artefacts. May correspond to MTP-343 (OEH #37-2-2546) recorded by McCardle (2007) and salvaged by RPS (2018).	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D17	D17	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D18	D18	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D19	D19	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
D20	D20	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D21	D21	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
D22	D22	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 8 artefacts. May correspond to MTP-328 (OEH #37-2-4049) recorded by McCardle (2007) and salvaged by RPS (2018).	Probably salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.
D23	D23	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 9 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
D24	D24	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts. May correspond to MTP-327 (OEH #37-2-4048) recorded by McCardle (2007) and salvaged by RPS (2018).	Probably salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.
E1	E1	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
E3	E3	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
E5	E5	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E13	E13	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
E14	E14	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact. May correspond to MTP-15 (OEH #37-2-2822) or MTP-16 (#37-2-2823) salvaged by SEA (2018).	Probably salvaged by South East Archaeology, December 2018.		SSD Zone A1	n/a	n/a	n/a	Salvaged under existing approval.	No further action required.	n/a	No change.
E15	E15	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E16	E16	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E17	E17	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E18	E18	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
E20	E20	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Unmitigated impact under existing AHIP.	No further action required.	n/a	No change.
E21	E21	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E23	E23	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E24	E24	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E25	E25	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E26	E26	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
E27	E27	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 10 artefacts. Probably corresponds to MTP-424 (OEH #37-2-3005) recorded by Roberts (2007) and salvaged by RPS (2018).	Probably salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.
E28	E28	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E29	E29	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E30	E30	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts. May correspond to MTP-64 (OEH #37-2-2868) salvaged by RPS (2018).	Probably salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
E31	E31	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts. Probably corresponds to MTP-61 (OEH #37-2-2865) salvaged by RPS (2018).	Probably salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.
E32	E32	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E33	E33	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts. One of these artefacts may have been re-recorded as an isolated artefact by Roberts (2007) as MTP-423 (OEH #37-2-3004).	Probably *in situ*, or possibly impacted, not salvaged. Portion may have been salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E34	E34	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
E35	E35	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact. Probably corresponds to MTP-421 (OEH #37-2-3002) recorded by Roberts (2007) and salvaged by RPS (2018).	Probably salvaged by RPS 2018.		SSD Zone A1	n/a	n/a	n/a	Probably salvaged under existing approval.	No further action required.	n/a	No change.
E36	E36	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E37	E37	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E38	E38	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
E39	E39	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
F1	F1	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
F2	F2	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
F3	F3	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
F4	F4	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
F5	F5	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
F6	F6	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F9	F9	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F10	F10	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
F11	F11	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
F12	F12	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F13	F13	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F14	F14	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F15	F15	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F16	F16	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
F17	F17	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
G1	G1	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
G2	G2	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
G3	G3	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
G4	G4	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
G5	G5	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 5 artefacts.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
G6	G6	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
G7	G7	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or increase.
G8	G8	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
H1	H1	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
H2	H2	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H3	H3	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H4	H4	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts. Probably corresponds to MTP-379 (OEH #37-2-2960) recorded by Roberts (2007).	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H5	H5	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H7	H7	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
H8	H8	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H9	H9	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H10	H10	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H11	H11	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H12	H12	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
H13	H13	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
H14	H14	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I7	I7	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I8	I8	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I9	I9	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I10	I10	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact. Near margin of AHIP 2092 area.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I11	I11	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I12	I12	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I13	I13	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 9 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I15	I15	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I16	I16	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I28	I28	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I29	I29	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I30	I30	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 5 artefacts. May correspond to MTP-277 (OEH #37-2-2506) recorded by McCardle (2007).	In situ	Low	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	Reassess impacts with detailed design. If impacts to occur, surface collection.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I31	I31	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I32	I32	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I33	I33	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 13 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
I34	I34	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I35	I35	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I36	I36	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I38	I38	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts. May partly correspond to an isolated artefact recorded by Scarp (2009) as MTP-1122 (OEH #37-2-3700).	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I39	I39	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I40	I40	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
I41	I41	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A2	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
I43	I43	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
J1	J1	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J2	J2	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
J3	J3	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J5	J5	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J6	J6	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 4 artefacts.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
J7	J7	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 3 artefacts.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J8	J8	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J9	J9	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
J10	J10	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A1R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J11	J11	Isolated Artefact	on margin of 2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J12	J12	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts. Probably corresponds to MTP-245 (OEH #37-2-2474) recorded by McCardle (2007).	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
J13	J13	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J14	J14	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J15	J15	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
J16	J16	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J17	J17	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J18	J18	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Significance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
J36	J36	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 22 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J37	J37	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J38	J38	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.

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J39	J39	Artefact Scatter		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 5 artefacts.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
J40	J40	Isolated Artefact		Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ	Uncertain	SSD Zone A2R - C	Possibly direct or none	Possibly total, partial or none	Possibly total, partial or no loss of value	Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.	Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.	Possibly total, partial or no loss of value	Possibly no change or decrease.
BD1	BD1	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
BD2	BD2	Artefact Scatter	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone B1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
CD1	CD1	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Surface collection required under AHIP.	Surface collection.	Total loss of value	Increase.
EF1	EF1	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
EF2	EF2	Isolated Artefact	2053	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	Probably *in situ*, or possibly impacted, not salvaged.		SSD Zone A1	n/a	n/a	n/a	Surface collection required under AHIP.	Surface collection. If already impacted, no further action required.	n/a	No change.
FG1	FG1	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
FG2	FG2	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.
FG3	FG3	Artefact Scatter	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 2 artefacts.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

AHIMS ID#	Site Name	Site Type	AHIP	Notes	Status	Signific-ance	SSD Zone	Impacts: Type of Harm	Impacts: Degree of Harm	Impacts: Consequence of Harm	Rationale for Management Strategy	Recommended Management Strategy	Consequent Impacts	SSD Change
HI1	HI1	Isolated Artefact	2092	Recorded by Rich (1995) during MPO EIS survey but not registered on AHIMS or previous RTCA maintained Site Databases. 1 artefact.	In situ		SSD Zone A1	Direct	Total	Total loss of value	Mitigate impacts, consistent with other similar sites.	Surface collection.	Total loss of value	No change.

Database not guaranteed to be free from error or omission.
AHIMS Data valid on 29 October 2018 for search area GDA56 Eastings 290000-301000 and Northings 6423500-6435000, sites outside of MPO Aboriginal Site Database Area are excluded.
Site 37-2-0603 is listed on AHIMS incorrectly as AGD but with a GDA grid reference (this site is therefore not within the MPO Site Database Area).

APPENDIX 8.

SUMMARY OF MANAGEMENT RATIONALE AND RECOMMENDATIONS FOR ALL ABORIGINAL SITES OF RELEVANCE TO THE SSD PROJECT

Notes:

- **Table includes** all identified Aboriginal sites within the MPO Aboriginal Site Database Area (Revision 4, 21 November 2019) which encompasses 63.4 square kilometres and includes the currently approved MPO, the SSD Application Area and approved Aboriginal Heritage Conservation Area A and provisional Aboriginal Heritage Conservation Areas B and C.

- **Site Type** - following standard heritage management categories. Sites reassessed not to be of Aboriginal origin are retained as 'Non-Sites' as they have previously been reported and/or listed on AHIMS.

- **Significance** – primarily only listed for sites *in situ* and/or pending management, not for sites that have been salvaged and/or impacted. Primarily derived from previous MPO heritage assessments and Bengalla assessments where applicable. It is acknowledged that all Aboriginal heritage sites are of significance to the Aboriginal community and that while the Aboriginal community themselves are in the best position to identify the levels of cultural significance, there is often a diversity of opinion and a reluctance to engage in any comparative or ranking process (as is inherent within any system of significance assessment). Consequently, the significance assessments based on concepts of relativity and ranking presented here from the previous MPO studies generally relate to scientific aspects of significance, but this is in no way intended to prioritise scientific values over cultural values.

- **SSD Zone** - For the purposes of this Aboriginal Cultural Heritage Assessment, the SSD Area can be subdivided into a number of Zones (refer to Figure 6):

  A) Existing Approved Areas where the SSD disturbance would not comprise additional primary disturbance. These areas are subdivided further as follows:

  A1) Subject to previous heritage survey and covered by an AHIP.
  A2) Subject to previous heritage survey, but not covered by an AHIP.
  A1R) Subject to previous heritage survey and covered by an AHIP – but to be relinquished under the SSD.
  A2R) Subject to previous heritage survey, but not covered by an AHIP – but to be relinquished under the SSD.
  A4R) Not subject to previous heritage survey and not covered by an AHIP – but to be relinquished under the SSD.

  B) Areas in which additional SSD primary disturbance is proposed. These areas can be subdivided further as follows:

  B1) Subject to previous heritage survey and covered by an AHIP.
  B2) Subject to previous heritage survey, but not covered by an AHIP.
  B3) Not subject to previous heritage survey, but covered by an AHIP.
  B4) Not subject to previous heritage survey and not covered by an AHIP.

  C) Remainder of the SSD Area in which potential minor future disturbance may occur subject to detailed infrastructure engineering design.

- **Rationale for Management Strategy** - key justification for proposed strategy (refer to Sections 10 and 11 of this report for discussion).

- **Recommended Management Strategy** - refer to Sections 10 and 11 of this report for discussion.

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
SSD Zone A1	**25**	**6**	**2**	**1**			**314**	**348**	**21**	**2**	**407**	**430**		**2**	**2**	**2**		**2**		**1**	**14**	**797**
Approved AHIP strategy - collection.	**4**						**6**	**10**	**14**		**11**	**25**										**35**
Surface collection.	4						6	10	14		11	25										35
Impacts uncertain. Origin of scar uncertain.																**1**		**1**				**1**
Reassess impacts. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance. If already impacted, no further action required.																1		1				1
Mitigate impacts, consistent with other similar sites.	**7**	**2**					**5**	**14**	**2**		**11**	**13**										**27**
Surface collection.	7	2					5	14	2		11	13										27
Not an Aboriginal site.																					**14**	**14**
No further action required.																					14	14
Offset by other measures.																				**1**		**1**
No further action required.																				1		1
Origin of scar uncertain. Reassessment of scar and possibly salvage required under AHIP but not undertaken prior to impacts.																**1**		**1**				**1**
No further action required.																1		1				1
Possibly salvaged under existing approval.											**2**	**2**										**2**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
No further action required.											2	2										2
Probably salvaged under existing approval.			**1**				**5**	**6**			**1**	**1**										**7**
No further action required.			1				5	6			1	1										7
Salvaged under existing approval.							**257**	**257**	**2**		**300**	**302**		**2**	**2**							**561**
No further action required.							257	257	2		300	302		2	2							561
Significance requires assessment. Mitigate impacts, consistent with other similar sites.										**2**		**2**										**2**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.										2		2										2
Surface collection required under AHIP.	**3**						**17**	**20**	**2**		**41**	**43**										**63**
Surface collection (retrieval of reburied artefacts). If already impacted, no further action required.							1	1														1
Surface collection.											1	1										1
Surface collection. If already impacted, no further action required.	3						16	19	2		40	42										61
Unmitigated impact under existing AHIP.	**11**	**4**	**1**	**1**			**24**	**41**	**1**		**41**	**42**										**83**
No further action required.	11	4	1	1			24	41	1		41	42										83
SSD Zone A1 and Zone C					**1**			**1**														**1**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Surface collection required under AHIP. ERM (2007) recommended management plan with Aboriginal stakeholders.					**1**			**1**														**1**
Manage as per SSD AHMP for site type, level of impacts and significance. If already partially impacted, no further action required (for that portion).					1			1														1
SSD Zone A1 or Outside SSD Area							**1**	**1**														**1**
Salvaged under existing approval.							**1**	**1**														**1**
No further action required.							1	1														1
SSD Zone A1R - C	**23**					**6**		**29**	**17**	**3**	**5**	**25**									**2**	**56**
Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	**23**							**23**	**17**			**17**										**40**
Reassess impacts with detailed design. If impacts to occur, surface collection.	23							23	17			17										40
Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.						**6**		**6**		**3**		**3**										**9**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						6		6		3		3										9
Not an Aboriginal site.																					**2**	**2**
No further action required.																					2	2
Salvaged under existing approval.											**5**	**5**										**5**
No further action required.											5	5										5
SSD Zone A2	**22**	**2**	**1**	**1**		**9**	**14**	**49**	**44**	**4**	**12**	**60**									**3**	**112**
Approved AHIP strategy - collection.	**1**							**1**	**1**			**1**										**2**
Surface collection.	1							1	1			1										2
Mitigate impacts, consistent with other similar sites.	**18**						**14**	**32**	**43**	**1**	**12**	**56**										**88**
Surface collection.	18						14	32	43		12	55										87
Surface collection. Grind stone requires verification by use-wear expert.										1		1										1
Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	**3**	**2**	**1**	**1**				**7**														**7**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.				1				1														1
Surface collection. Implement alternative Conservation offset for Area C.	3	2	1					6														6
Not an Aboriginal site.																					**3**	**3**
No further action required.																					3	3
Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.						**9**		**9**		**3**		**3**										**12**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.						9		9		3		3										12
SSD Zone A2R - C	**88**					**29**		**117**	**85**	**19**		**104**									**5**	**226**
Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. If impacts to occur, mitigate impacts consistent with other similar sites.	**88**							**88**	**85**			**85**										**173**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Reassess impacts with detailed design. If impacts to occur, surface collection.	88							88	85			85										173
Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.						**19**		**19**		**19**		**19**										**38**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						19		19		19		19										38
Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment. McCardle recommended test excavation.						**10**		**10**														**10**
Reassess impacts with detailed design. If impacts to occur, test excavation and then manage as per SSD AHMP for site type, level of impacts and significance.						10		10														10
Not an Aboriginal site.																					**5**	**5**
No further action required.																					5	5
SSD Zone A4R - C										**2**		**2**										**2**
Approved disturbance area to be relinquished under SSD. Becomes Zone C, impacts uncertain, subject to detailed design. Significance requires assessment.										**2**		**2**										**2**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.										2		2										2
SSD Zone B1	**3**					**4**	**29**	**36**	**2**	**2**	**43**	**47**							**1**		**2**	**86**
Approved AHIP strategy - collection.							**1**	**1**														**1**
Surface collection.							1	1														1
Impacts uncertain. Origin of scar uncertain.																			**1**			**1**
Reassess impacts. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.																			1			1
Mitigate impacts, consistent with other similar sites.	**3**							**3**	**2**			**2**										**5**
Surface collection.	3							3	2			2										5
Not an Aboriginal site.																					**2**	**2**
No further action required.																					2	2
Salvaged under existing approval.							**21**	**21**			**27**	**27**										**48**
No further action required.							21	21			27	27										48
Significance requires assessment.						**1**		**1**														**1**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						1		1														1
Significance requires assessment. Mitigate impacts, consistent with other similar sites.						**3**		**3**		**2**		**2**										**5**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						3		3		2		2										5
Surface collection required under AHIP.							**7**	**7**			**15**	**15**										**22**
Surface collection (retrieval of reburied artefacts). If already impacted, no further action required.							1	1														1
Surface collection.							3	3			8	8										11
Surface collection. If already impacted, no further action required.							3	3			7	7										10
Unmitigated impact under existing AHIP.											**1**	**1**										**1**
No further action required.											1	1										1
SSD Zone B1 and Zone C	**1**							**1**														**1**
Mitigate impacts, consistent with other similar sites.	**1**							**1**														**1**
Surface collection.	1							1														1
SSD Zone B2	**8**	**3**	**1**			**13**		**25**	**1**	**12**		**13**									**1**	**39**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Mitigate impacts, consistent with other similar sites.	**2**							**2**	**1**			**1**										**3**
Surface collection.	2							2	1			1										3
Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.	**6**	**3**	**1**					**10**														**10**
Surface collection. Implement alternative Conservation offset for Area C.	6	3	1					10														10
Not an Aboriginal site.																					**1**	**1**
No further action required.																					1	1
Significance requires assessment. Mitigate impacts, consistent with other similar sites.										**1**		**1**										**1**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.										1		1										1
Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.						**13**		**13**		**11**		**11**										**24**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.						13		13		11		11										24
SSD Zone B3									**2**			**2**										**2**
Mitigate impacts, consistent with other similar sites.									**2**			**2**										**2**
Surface collection.									2			2										2
SSD Zone B4	**1**							**1**	**4**	**2**		**6**	**1**		**1**							**8**
Mitigate impacts, consistent with other similar sites.	**1**							**1**	**4**			**4**										**5**
Surface collection.	1							1	4			4										5
Significance requires assessment.										**2**		**2**	**1**		**1**							**3**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.										2		2	1		1							3
SSD Zone B4 and Zone C													**1**		**1**							**1**
Significance requires assessment.													**1**		**1**							**1**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.													1		1							1
SSD Zone C	**29**	**1**	**12**			**71**	**107**	**220**	**22**	**64**	**99**	**185**	**2**	**4**	**6**	**1**	**8**	**9**			**7**	**427**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Any impacts subject to detailed design. Confirmation of Bengalla salvage required.										**1**		**1**										**1**
Confirm if salvaged. Reassess impacts with detailed design and significance. If salvaged, no further action. Othewise, manage as per SSD AHMP for site type, level of impacts and significance.										1		1										1
Impacts uncertain, subject to detailed design.	**22**	**1**						**23**	**19**			**19**										**42**
Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance.	22	1						23	19			19										42
Impacts uncertain, subject to detailed design. Origin of scar uncertain.																	**8**	**8**				**8**
Reassess impacts with detailed design. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance.																	8	8				8
Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.	**6**		**12**					**18**	**3**			**3**										**21**
Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.	6		12					18	3			3										21

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Significance requires assessment.						**54**		**54**		**37**		**37**	**1**		**1**							**92**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.						54		54		37		37	1		1							92
Impacts uncertain, subject to detailed design. Significance requires assessment.						**17**		**17**		**26**		**26**	**1**		**1**							**44**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						17		17		26		26	1		1							44
Impacts uncertain. Origin of scar uncertain. Provisional Conservation Area C to be offset in another location and/or manner.																**1**		**1**				**1**
Reassess impacts. Reassess origin of scar. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.																1		1				1
Not an Aboriginal site.																					**7**	**7**
No further action required.																					7	7

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Salvaged under existing approval.	**1**						**105**	**106**			**94**	**94**		**4**	**4**							**204**
No further action required.	1						105	106			94	94		4	4							204
Unmitigated impact under existing AHIP.							**2**	**2**			**5**	**5**										**7**
No further action required.							2	2			5	5										7
SSD Zone C and Zone B2		**1**						**1**														**1**
Impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner.		**1**						**1**														**1**
Reassess impacts with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.		1						1														1
SSD Zone C or Outside SSD Area	**1**						**2**	**3**			**2**	**2**										**5**
Probably outside SSD Area.	**1**							**1**														**1**
Avoid impacts.	1							1														1
Salvaged under existing approval.							**2**	**2**			**2**	**2**										**4**
No further action required.							2	2			2	2										4
SSD Zones A, B and C						**1**		**1**														**1**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Significance requires assessment. Mitigate impacts, consistent with other similar sites.						**1**		**1**														**1**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						1		1														1
SSD Zones A1, A2, A2R, B1, B2 and C						**1**		**1**														**1**
Impacts uncertain, subject to detailed design. Significance requires assessment.						**1**		**1**														**1**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance.						1		1														1
SSD Zones A2, B2 and C						**1**		**1**														**1**
Significance requires assessment. Mitigate impacts, consistent with other similar sites. Provisional Conservation Area C to be offset in another location and/or manner.						**1**		**1**														**1**
Reassess impacts with detailed design and significance. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.						1		1														1
Conservation Area A							**44**	**44**			**20**	**20**									**6**	**70**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
Approved conservation area.							**44**	**44**			**20**	**20**										**64**
Conservation.							44	44			20	20										64
Not an Aboriginal site.																					**6**	**6**
No further action required.																					6	6
Conservation Area A and SSD Zone C			**1**				**1**	**2**														**2**
Part within Zone C salvaged under existing approval. Part within Conservation Area A.							**1**															**1**
Salvaged under existing approval within Zone C, no further action required. Conservation for portion within Conservation Area A.							1															1
Within Zone C, impacts uncertain, subject to detailed design. Provisional Conservation Area C to be offset in another location and/or manner. Part within Conservation Area A.			**1**					**1**														**1**
Conservation for portion within Conservation Area A. Reassess impacts in Zone C with detailed design. Manage as per SSD AHMP for site type, level of impacts and significance. Implement alternative Conservation offset for Area C.			1					1														1
Outside SSD Area							**57**	**57**			**63**	**63**		**2**	**2**		**2**	**2**			**1**	**125**
Not an Aboriginal site.																					**1**	**1**

Site Type	Artefact Scatter, Artefact Scatter with PAD							Artefact Scatter, Artefact Scatter with PAD Total	Isolated Artefact, Isolated Artefact with PAD			Isolated Artefact, Isolated Artefact with PAD	Open Artefact Site		Open Artefact Site Total	Scarred Tree		Scarred Tree Total	Scarred Tree and Isolated Artefact Total	Spiritual Place Total	Non-Site Total	
Significance **SSD Zone /** **Rationale for Management /** **Recommended Management Strategy**	**Low**	**Low-moderate**	**Moderate**	**Moderate-high**	**High**	**Uncertain**	**Not Assessed**		**Low**	**Uncertain**	**Not Assessed**		**Uncertain**	**Not Assessed**		**Moderate-high**	**Not Assessed**		**Moderate-high**	**Uncertain**	**Nil**	**Grand Total**
No further action required.																					1	1
Outside SSD Area.							**36**	**36**			**55**	**55**		**2**	**2**		**2**	**2**				**95**
Avoid impacts.							36	36			55	55		2	2		2	2				95
Provisional Conservation Area B, to be offset in another location and/or manner.							**21**	**21**			**8**	**8**										**29**
Avoid impacts. Implement alternative Conservation offset for Area B.							21	21			8	8										29
Grand Total	**201**	**13**	**17**	**2**	**1**	**135**	**569**	**938**	**198**	**110**	**651**	**959**	**4**	**8**	**12**	**3**	**10**	**13**	**1**	**1**	**41**	**1965**

APPENDIX 9.

ABORIGINAL CULTURAL VALUES REPORT

(Susan Dale Donaldson, Anthropologist, Environmental and Cultural Services)

Aboriginal cultural values report

MOUNT PLEASANT OPTIMISATION PROJECT, HUNTER VALLEY, NEW SOUTH WALES: STATE SIGNIFICANT DEVELOPMENT APPLICATION

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14th October 2020

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Executive summary

On behalf of MACH Mount Pleasant Operations Pty Ltd, South East Archaeology Pty Ltd has engaged anthropologist Susan Dale Donaldson to undertake an investigation of Aboriginal cultural heritage values at the Mount Pleasant Optimisation Project, Hunter Valley, NSW, as part of the Project's State Significant Development [SSD] Application.

The anthropological assessment is in addition to the Aboriginal Cultural Heritage Assessment [ACHA] recently undertaken by South East Archaeology [SEA] and was requested by South East Archaeology as a way to gain a better understanding of any non-archaeological cultural values within the Project area and how these values might be impacted by the proposed work.

The focus of the anthropological assessment is intangible cultural heritage specifically within the SSD Area as well as across the surrounding landscape where relevant. Intangible cultural heritage means the diversity of cultural practices created by groups of people over time and recognised by them as part of their heritage. Intangible cultural heritage can relate to the connection people have to a place as well as to the knowledge or skills passed from person to person across generations. Intangible cultural heritage can change over time and be traditional or contemporary or both. Intangible cultural heritage can be linked to particular places or natural resources, but not always.

This assessment has involved a brief review of ethnographic materials, the development of interview questions, liaising and interviewing Aboriginal people, and analysing the data collected. Aboriginal participants were selected from the Registered Aboriginal Party [RAP] list for the Project. Due to Covid – 19 restrictions, face – to – face consultations were replaced with telephone interviews. Initial introductory telephone discussions and emails were undertaken to enable informed consent. When consent to participate was granted, a telephone interview was undertaken. Twenty-five [25] individuals were contacted and of these seven [7] were interviewed.

This brief assessment has not identified any specific sites or areas of cultural significance within the SSD area or across the surrounding landscape that require Aboriginal Place Declaration under the National Parks and Wildlife Act 1974 (NPW Act) or scheduling as an Aboriginal Heritage Conservation Area in the Muswellbrook Shire Council's Local Environmental Plan under the NSW Environmental Planning and Assessment Act 1979. This assessment has been able to highlight a number of key cultural heritage themes associated with Mt Pleasant and the surrounding landscape including the important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects; the historic resistance of Wanaruah ancestors to colonisation is valued by Wanaruah people today; the past acts are an integral part of contemporary Wanaruah cultural identity and form part of people's attachment to place; the customary right to care for and make decisions about one's traditional land is important to Wanaruah people today; and the ongoing cultural use of natural resources across the landscape is an important cultural practise for Wanaruah people today.

No specific sites or cultural areas were identified that require specific impact mitigation recommendations. Some more general recommendations have been formulated as a way to safeguard the identified Aboriginal cultural values.

1.0 INTRODUCTION

1.1 Proposed work

The Mount Pleasant Optimisation Project in the Hunter Valley of NSW is part of a State Significant Development [SSD] Application. The key components of the proposed Mount Pleasant Optimisation Project comprise (SEA 2020: 2-4):

- Increased open cut coal extraction within Mount Pleasant Operation Mining Leases by mining of additional coal reserves, including lower coal seams in the North Pit;
- Staged increase in extraction, handling and processing of ROM coal up to 21 Mtpa (ie. progressive increase in ROM coal mining rate from 10.5 Mtpa over the Project life);
- Staged upgrades to the existing Coal Handling and Preparation Plant (CHPP) and coal handling infrastructure to facilitate the handling and processing of additional coal;
- Rail transport of up to approximately 17 Mtpa of product coal to domestic and export customers;
- Upgrades to workshops, electricity distribution and other ancillary infrastructure;
- Existing infrastructure relocations to facilitate mining extensions (eg. local roads, powerlines and water pipelines);
- Construction and operation of new water management and water storage infrastructure in support of the mine;
- Additional reject dewatering facilities to allow co-disposal of fine rejects with waste rock as part of ROM waste rock operations;
- Development of an integrated waste rock emplacement landform that incorporates geomorphic drainage design principles for hydrological stability, and varying topographic relief to be more natural in exterior appearance;
- Construction and operation of new ancillary infrastructure in support of mining;
- Extension to the time limit on mining operations to 22 December 2048;
- An average operational workforce of approximately 600 people, with a peak of approximately 830 people;
- Ongoing exploration activities; and
- Other associated infrastructure, plant, equipment and activities.

For further details about the Mount Pleasant Operation refer to SEA [2020].

1.2 Assessment tasks

On behalf of MACH Mount Pleasant Operations Pty Ltd, South East Archaeology Pty Ltd has engaged anthropologist Susan Dale Donaldson to undertake an investigation of Aboriginal cultural heritage values at the Mount Pleasant optimisation project, Hunter Valley, NSW, as part of the project's State Significant Development [SSD] Application, as detailed above.

The anthropological assessment is in addition to and forms a component of the Aboriginal Cultural Heritage Assessment [ACHA] prepared by Peter Kuskie, South East Archaeology [SEA] and was requested by South East Archaeology as a way to gain a better understanding of any non -archaeological cultural values within the Project area and how these values might be impacted by the proposed work. The scope involved the following tasks:

- Review ethnographic data and other relevant materials.
- Draft interview information agreement and interview questions aimed at capturing Aboriginal cultural values associated with the Project Area.
- Liaise with RAPs via telephone / computer to identify Aboriginal participants and develop interview schedule. Brief interviewees on assessment aims and methodology, and the future use of the cultural information they provide [based on information agreements to ensure informed consent].
- Undertake telephone / computer consultation with the Registered Aboriginal Parties (RAPs) with a focus on identifying any cultural values associated with the Project Area (particularly contemporary values and any traditional or historical values as relevant)
- Analyse the outcomes of the interviews in relation cultural values and draft a brief report to be included as an Appendix to SEA's ACHA.

1.3 Understanding intangible cultural heritage

Non-material or intangible Aboriginal cultural heritage is best understood as the value or **meaning** people or cultural groups give to places across the landscape or the **associations,** they have with them. These places may or may not have physical traits, but the associated meaning and value is held within people's minds, memories and continued activities and knowledge. Whilst intangible values generally speaking can be of a social or historical nature, the distinguishing feature of 'intangible Aboriginal cultural heritage values' is the cultural element such as stories of cultural events, religious significance, spirituality, the intergenerational layers of cultural connection to place, knowledge of how to maintain and use natural resources, and undertaking cultural activities. These important values can be overlooked during cultural heritage assessments, and are easily lost if not retold, captured, safeguarded and maintained.

The proposed new legal framework for Aboriginal cultural heritage in NSW acknowledges that the current NPW Act does not include a definition of Aboriginal cultural heritage that captures the full scope of Aboriginal cultural expression and practice. Accordingly, proposed changes to the Act will redefine

'Aboriginal cultural heritage' to encompass 'living, traditional or historical practices, ancestral remains, representations, expressions, beliefs, knowledge and skills and associated environment, places, landscapes, objects and materials that Aboriginal people recognise as part of their cultural heritage' [OEH 2017:11].

The concept of a 'cultural landscape' is a relatively new one in the field of heritage conservation and management and attempts to capture both material and non-material elements. In 1996 the World Heritage Committee adopted a definition for cultural landscapes of outstanding universal value:

> *"Cultural landscapes represent the 'combined works of nature and of man' ...illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal" (UNESCO, 1996).*

Following on from this, UNESCO adopted three categories of cultural landscapes, in relation to world heritage nominations and listings; clearly defined landscape designed and created intentionally by man; organically evolved landscape and associative cultural landscapes. It is the third category which is of relevance to assessing and understanding Australian Indigenous concepts of land, connectedness and the concept of 'country' as described by the late anthropologist Deborah Bird Rose:

> *" Country in Aboriginal English is not only a common noun but also a proper noun. People talk about country in the same way that they would talk about a person: they speak to country, sing to country, visit country, worry about country, feel sorry for country, and long for country. People say that country knows, hears, smells, takes notice, takes care, is sorry or happy. .....country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will toward life. Because of this richness, country is home, and peace; nourishment for body, mind, and spirit; heart's ease… Country is multi-dimensional - it consists of people, animals, plants, Dreamings; underground, earth, soils, minerals and waters, surface water, and air."(Rose 1996: 7-8)*

The 'associative cultural landscape' encompasses the non-material values across a landscape and highlights the inseparability of cultural and natural values. Associative cultural landscapes may be defined as large or small contiguous or non-contiguous areas and itineraries, routes, or other linear landscapes - these may be physical entities or mental images embedded in a people's spirituality, cultural tradition and practice.

The attributes of associative cultural landscapes include the intangible, such as the acoustic, the kinetic and the olfactory, as well as the visual. The range of natural features associated with cosmological, symbolic, sacred, and culturally significant landscapes may be very broad: mountains, caves, outcrops, coastal waters, rivers, lakes, pools, hillsides, uplands, plains, woods, groves, trees[1]. Importantly, associative cultural landscapes may be valued by multiple groups, who attach different values resulting in a concurrence of cultures and uses, all of which are recognised to have validity.[2] By considering Aboriginal cultural heritage values on a landscape scale, the inseparability of people and place, culture

[1] International Council on Monuments and Sites (ICOMOS) International Symposium 2004.
[2] US/ICOMOS, 1996.

and nature, the past and the present, material and non-material values, the Aboriginal world view becomes more apparent. Seemingly isolated locations and events are interconnected.

Whilst theoretical understandings specific to Aboriginal concepts of cultural landscapes continue to develop it is acknowledged that Aboriginal cultural landscapes are places valued by an Aboriginal group (or groups) because of their long and complex relationship with that land, and importantly, material evidence of the association will often be minimal or absent[3]. Conversely, Truscott [2000] points out that often 'intangible heritage' can be seen, or heard, or tasted or smelt or felt emotionally[4].

From a spatial perspective, the relationship between human activity and the natural environment may not always relate to isolated locations. Researchers at Flinders University Leader-Elliott, Maltby and Burke [2004] found that 'a cultural landscape is more than just the sum of its physical places; it is equally concerned with the spaces between places and how these are given meaning, as well as the documentary and oral history stories that are woven around both. The deeply social nature of relationships to place has always mediated people's understandings of their environment and their movements within it, and is a process which continues to inform the construction of people' s social identity today.' [5]

The most relevant understanding of cultural landscapes and intangible cultural heritage values, for the purposes of the Mt Pleasant assessment, is that developed by Brown [2010] for the management of National Parks in NSW. For Brown, 'the cultural landscape concept emphasises the landscape scale of history and the connectivity between people, places, and heritage items. It recognises the present landscape is the product of long term and complex relationships between people and the environment….'.[6] Brown highlights how the integration of people's stories, memories and aspirations into management processes gives recognition to the link between the landscape and people's experiences, without this, 'an impression is created that the landscape is devoid of human history'. Moreover, he found that respecting and acknowledging people's attachments supports community identity and wellbeing[7].

In 2013 the *Australia ICOMOS Burra Charter* broadened its definition of 'place' to encompass Indigenous places of cultural significance which may comprise both intangible and tangible values across interrelated locations referred to as cultural landscapes. The Burra Charter's definition of 'place' as a geographically defined area also includes natural elements, objects, spaces and views. The Burra Charter definition of 'cultural significance' means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. The Burra Charter definition of 'use' means the functions of a place, including the activities and traditional and customary practices that may occur at the place or are dependent on the place. Associations mean the

[3] Buggey (1999: 30).

[4] Truscott (2000: 23).

[5] Leader-Elliott, Maltby and Burke 2004; see also Byrne 2004.

[6] Brown (2010: 4).

[7] Brown (2012: 108).

connections that exist between people and a place, whilst meanings denote what a place signifies, indicates, evokes or expresses to people.

Whilst the term 'intangible cultural heritage' is not directly defined in the Burra Charter, the cultural practices to which it refers are encompassed by the Charter, Explanatory Notes and Practice Notes, including the ICOMOS Practise Note on *Intangible cultural heritage and place* [October 2017], which covers all Australian cultural groups. In the 2017 ICOMOS Practise Note for Intangible cultural heritage is defined as:

> … the diversity of cultural practices created by communities and groups of people over time and recognised by them as part of their heritage and cultural practices encompass traditional and customary practices, cultural responsibilities, rituals and ceremonies, oral traditions and expressions, performances, and the associated language, knowledge and skills, including traditional craft skills, but is not limited to these ... (ICOMOS: 2017: 3)

It is also worth considering the Commonwealth government's definition of Aboriginal and Torres Strait Islander heritage, as applied to heritage significance assessments:

> As well as historically important, Indigenous heritage is of continuing significance, creating and maintaining continuous links with the people and the land. Places that hold great meaning and significance to Indigenous people include places associated with Dreaming stories depicting the laws of the land and how people should behave; places that are associated with their spirituality; places where other cultures came into contact with Indigenous people; places that is significant for more contemporary uses ..[8]

1.4 Methodology

There is no officially accepted framework for the assessment of the significance of intangible Aboriginal cultural heritage values in NSW.

The following assessment methodology is based on that developed by Brown [2010], giving consideration of the approaches developed by Ross et al [2010], Buggey [1999], McCann [1994], Lennon and Mathews [1996], Howitt [2000], Byrne [2004], the Burra Charter and standard ethnographic research tools. International 'good practise' guides associated with cultural heritage management in the resource sector have also been considered including the International Council on Mining and Metals Good Practise Guide: Indigenous people and mining [ND].

The methodology employed for this assessment involves:

[8] Australian Heritage Commission, 1997.

- Identifying the specific associations relevant to the subject land through reviewing existing materials;
- Engaging with Aboriginal people who hold knowledge of the area on the basis of Free, Prior and Informed Consent [FPIC];
- Analysing all the available evidence and forming an opinion about the identified values;
- Considering how the identified values may be impacted by the proposed works; and
- Establishing ways to mitigate potential impact in order to safeguard the values.

Background research

Background research into the local and regional history is required in order to understand the important physical components of the landscape that influenced what is seen and valued today. Reviewing previous ethnographic research improves understandings of past cultural practises and how they relate to cultural heritage values held by people today. Identifying any topographical, geological or other natural features is also required in order to determine particular activities associated with the area. Determining who values the landscape and reviewing land use history e.g. history of logging, clearing for agriculture, road building, swamp drainage is also important.

Background investigations also involve checking if there are any sites or features already identified or registered as containing heritage values. In NSW there are different types of statutory listings for local, state and national heritage items. A property is a heritage item if it is listed in the heritage schedule of a local council's local environmental plan (LEP) or a regional environmental plan (REP); listed on the State Heritage Register, a register of places and items of particular importance to the people of NSW; registered or recorded in the NSW Government's Aboriginal Heritage Information Management System [AHIMS] as an archaeological site or Aboriginal Place; or listed on the National Heritage List established by the Australian Government to list places of outstanding heritage significance to Australia.

Engaging with Aboriginal knowledge holders

Ethnography is a research method used in anthropology requiring field assessment and direct engagement with a group of people to develop an understanding of the society and culture to which they belong. Ethnographic research associated with Aboriginal cultural heritage would normally draw on participant observation to collect data on people's behaviours. Qualitative research methods from multiple approaches are undertaken such as the physical inspection of sites with the Aboriginal custodians of the sites, the undertaking of in-depth, one on one interviews, and small semi structured, focus group sessions.

Documenting intangible values within a cultural landscape with the Aboriginal knowledge holders is critical part of the assessment. For the purposes of this assessment SEA provided the consultant with the relevant RAP list as a way to identify participants in the assessment. Recording old camp sites, dreaming routes, natural resource collection places, work places, ritual and teaching places, for instance usually involves being on site with people and mapping their oral history and acquired knowledge.[9] However, country visits with Aboriginal groups are not be possible at this time due to the project time

[9] McCann (1994:130-131).

frame and current Covid-19 safety concerns. Instead a phone survey / interview guide was developed as a way to engage with Aboriginal participants about their cultural attachments to the study area [Appendix 1]. Broad scale community surveys are an effective way to elicit data on the cultural norms of a group and to generate broad overviews about the cultural groups represented. Aerial mapping will also be utilised to identify locations in cases where participants are familiar with locations but not the place name.

Given the consultant had not met the Aboriginal people associated with the study area, and needed to ensure participation in the assessment was based on Free, Prior and Informed Consent [FPIC][10] the consultant developed the following introduction, which was emailed or verbally delivered to potential participants over the telephone:

> *My name is Susan Donaldson. I am an anthropologist engaged by South East Archaeology Pty Ltd on behalf of MACH Mount Pleasant Operations Pty Ltd to undertake an additional investigation of Aboriginal cultural heritage values at the MOUNT PLEASANT OPTIMISATION PROJECT, HUNTER VALLEY, NSW, for the STATE SIGNIFICANT DEVELOPMENT APPLICATION. My assessment is in addition to the draft Aboriginal Cultural Heritage Assessment [ACHA] recently undertaken by Peter Kuskie South East Archaeology [SEA] which is currently out for comment.*
>
> *This additional assessment was requested by South East Archaeology as a way to gain a better understanding of any non -archaeological cultural values within the development area and how these values might be impacted by the proposed work. The focus of this assessment will therefore be on intangible cultural values specifically within the SSD Area [see maps attached] as well as across the surrounding landscape where relevant. Intangible cultural heritage means the diversity of cultural practices created by groups of people over time and recognised by them as part of their heritage. Intangible cultural heritage can relate to the connection people have to a place as well as to the knowledge or skills passed from person to person across generations. Intangible cultural heritage can change over time and be traditional or contemporary or both. Intangible cultural heritage can be linked to particular places or natural resources, but not always. I have attached an aerial view of the Mt Pleasant area from 1985, before the mine was developed. This image may trigger people's memories associated with historical use of the area.*
>
> *Normally during intangible cultural heritage assessments, I would visit country with Aboriginal custodians, but due to Covid restrictions, this is not possible. Instead I will be interviewing RAPs over the phone. I will then write a report which is intended to be attached to SEA's ACHA. This report will be used by MACH and the Department of Planning, Industry and Environment to make a decision about the proposed works. The report will be made public, so your stories may be read by others. Any sensitive information provided will be managed in accordance with the informant's instructions and the NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010).*

[10] Australia Government 2016; Oxfam Australia 2010; AIATSIS 2012.

If you are interested in participating in the additional investigation of Aboriginal cultural heritage values, give me a call and we can arrange a telephone interview time. Interviews will be taking place next week [7th to 13th September 2020]. I look forward to hearing from you.



Figures 1 and 7 from SEA [2020] were also provided to potential participants.

Important elements to capture during community consultation include the location of important places, a physical description of them [if possible] and the reasons why the identified places are important. Key principles within the Burra Charter Practise Note relevant to identifying and assessing the significance of intangible cultural heritage with people include [2017:3]:

- Cultural practices at a place that relate to the place itself, to objects (and fixtures, contents, and elements), to people, and to its setting, and that may relate to other places, should be identified and investigated, and their contribution to the significance of the place documented and respected.
- A place, its location and setting may be integral to the existence, observation and practice of intangible cultural heritage.
- Knowledge and understanding of cultural practices come primarily from those engaged in the cultural practice. The participation of the communities or groups involved in or responsible for the cultural practices is essential to understanding intangible cultural heritage.
- The community or group is the primary source of information about its own intangible cultural heritage and is responsible for the safekeeping of knowledge, skills, objects and places involved in the cultural practices. There may be protocols about the sharing of information and intellectual property rights.
- Cultural practices at a place might be at risk if they are not recorded, or their contribution to the significance of the place or to the community or group, is not recognised.

- The loss of a cultural practice may diminish the cultural significance of a place. The conservation, maintenance and preservation of cultural practices may be integral to retaining the cultural significance of a place.

The cultural landscape approach advocated by Brown incorporates a 'holistic' and integrated heritage management model, incorporating both Aboriginal and non-Aboriginal values[11]. A holistic model manages heritage objects, places and landscapes for their historical, social, spiritual, scientific and aesthetic values. The holistic model also recognises that physical landscape and social contexts are dynamic and can encompass the following:

- Tangible (material traces of history) and intangible (beliefs, stories, knowledge and language) heritage;
- Aboriginal and settler Australian (including shared and diverse) heritage;
- Pre- and post-contact heritage (i.e., pre- and post-1788)
- Natural and cultural heritage; and
- The past and present.

Analysing the evidence

Analysing the documented evidence is then required in order to determine which features and characteristics are associated with the various themes and historic periods identified the relationships between the landscape and the features, and between the features themselves. In analysing the data and drawing conclusions about the landscape, the following points are also considered:

- The relationship between the elements reveals the characteristics of the cultural landscape. How intact these relationships are, e.g. through the retention of linking and network features, or the persistence of 'keystone' features, helps determine the integrity of the landscape. Integrity is the extent to which the historic layers, meanings and relationships between elements remain intact and can be read in the landscape.

- All landscapes are dynamic. The visual changes in landscapes over time can be dramatic. For instance, old photos may be unrecognisable now or alternatively, there may be evidence of continuity: nineteenth century technology and land-use practices may still persist.

- A landscape or a feature may be associated with a number of different themes, activities and historic periods. The landscape or feature's physical form may have been altered, or on the other hand, may have been left intact by these associations. In both these cases, a richer historic meaning remains, through this association adding historical depth and complexity to the landscape or feature.

[11] Brown (2010: 6).

- Analysis requires comparing information from different sources: using only one source may result in misleading or inaccurate conclusions. Note aspects that remain unaddressed, queries or doubts.

In determining the significance of intangible values across a cultural landscape, its features, and the relationships between them, consideration is also given to how well the themes and historic periods are represented and how the important characteristics of the cultural landscape compare with those of other places. The scale of the significance needs to be determined, i.e. is the place of local, regional, state, national or international significance. There are various cultural heritage management tools across all levels of government. For instance, the State Heritage Register was established under Part 3A of the Heritage Act (as amended in 1998) for listing items of environmental heritage which are of state heritage significance. State heritage significance can relate to a place, building, work, relic, moveable object or precinct, of significance to the State in terms of the historical, scientific cultural, social, archaeological, architectural, natural or aesthetic value.[12]

Determining impact

The Burra Charter does not directly define how intangible values can be harmed or damaged nor does it provide a framework for assessing impacts to intangible values. Instead, the Burra Charter Practise Note on intangible values outlines ways to **'sustain cultural practises'** involving collaboration between the associated communities and the place manager / land owner. Suggested management policies and actions may be needed to help sustain the cultural practices including:

- protection of any fabric or parts of the place which are integral to the cultural practices
- introducing cultural protocols such as restrictions on access or activities undertaken in parts of the place
- checking that the circumstances at the place support continuation of the cultural practices.

The Burra Charter Practise Note on intangible values also outlines how **change** to a place may impact on a cultural practice and equally changes to a cultural practice may impact the cultural significance of a place. Possible changes that might impact cultural practices include:

- changes to use or access
- changes to the form, fabric or layout of the place
- restrictions on the spaces available for cultural practices.

Similarly, the United Nations Educational, Scientific and Cultural Organization (UNESCO) *Convention for the Safeguarding of the Intangible Cultural Heritage* [2003] focuses on '**safeguarding**' the processes from which the intangible values arise. This approach also circumnavigates the issue of harm / damage and states that 'to be kept alive, intangible cultural heritage must be relevant to the community, continuously recreated and transmitted from one generation to another. There is a risk that certain

[12] Heritage Act, 1977.section 4A (1)

elements of intangible cultural heritage could die out or disappear without help, but safeguarding does not mean protection or conservation in the usual sense, as this may cause intangible cultural heritage to become fixed or frozen. **'Safeguarding' means ensuring the viability of the intangible cultural heritage, that is ensuring its continuous recreation and transmission. Safeguarding intangible cultural heritage is about the transferring of knowledge, skills and meaning**. It focuses on the processes involved in transmitting, or communicating it from generation to generation, rather than on the production of its concrete manifestations, such as dance performances, songs, music instruments or crafts. Any safeguarding measure must be developed, and applied, with the consent and involvement of the community itself. In certain cases, public intervention to safeguard a community's heritage is not even desirable, since it may distort the value such heritage has for the community itself. Moreover, **safeguarding measures must always respect the customary practices governing the access to specific aspects of such heritage, which might, for instance, be the case when dealing with sacred or secret intangible cultural heritage manifestations** ...' (UNESCO 2003).

Part 6 Section 86 of the *National Parks and Wildlife Act 1974* provides specific protection for Aboriginal objects and Aboriginal Places by establishing offences of harm which are defined to mean **destroying, defacing, or damaging** an object or Place or moving an Aboriginal object from the land. Essentially, the Act allows for the protection of intangible values only if the values are associated with lands contained within an Aboriginal Place, as declared under section 84 of the NSW NPW Act, or if they are also associated with an object.

The Heritage NSW *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) considers how the proposed activity might **harm, diminish or remove the reasons for the places' importance**. OEH define types harm as being either direct, indirect or none, as follows:

> **Direct harm** may occur as the result of any activity which disturbs the ground including, but not limited to, site preparation activities, installation of services and infrastructure, roadworks, excavating detention ponds and other drainage or flood mitigation measures, and changes in water flows affecting the value of a cultural site.
>
> **Indirect harm** may affect sites or features located immediately beyond, or within, the area of the proposed activity. Examples of indirect impacts include, but are not limited to, increased impact on art in a shelter site from increased visitation, destruction from increased erosion and changes in access to wild food resources.

The degree of harm is then classified as total, partial or none and the consequence of harm as total loss of value, partial loss of value and no loss of value (OEH 2017: 21). Given intangible values may be embedded in residential patterns and social structures, are recreated as part of cultural dynamics, are usually in the form of traditions and living expressions without a physical presence, often with no fixed location or boundary, and may not be linked to a specific place, the above concepts of harm are difficult to apply to intangible values. Proposed changes to the NPW Act in relation to intangible cultural values include a revision of the definition of 'harm' and the inclusion of a definition of 'desecration' (OEH 2017: 30).

The OEH Guide also requires a consideration of the principles of ecologically sustainable development, in particular the principle of inter-generational equity (OEH 2017: 12) when assessing likely harm on Aboriginal objects and Aboriginal Places. A consideration of inter-generational equity is a useful tool to apply when assessing impacts to intangible values, be they place based or not, within an Aboriginal Place, or not. As noted above, currently in NSW the obligation to protect intangible Aboriginal cultural values relating to lands beyond Aboriginal Places is a moral one, rather than a legal requirement.

As is common amongst any cultural group, opinion varied amongst participants about how the proposed works might impact the identified intangible cultural values giving consideration to pre-existing disturbances, proposed disturbances during the construction period, and the accumulation of increased development in the area overall[13]. How will the development effect people's memories, their spirituality, their sense of cultural identify, their sense of place in their own country in a contemporary world?

Impacts can be both positive and negative and may result in the need for management, whether broad acre landscape processes or small-scale actions. If the existing condition of certain individual features is in poor condition, it may be the case that the proposed works will improve the situation, for instance, with revegetation measures or increased access. If the existing condition is determined as being good or excellent, the proposed works may adversely alter the state. Processes likely to degrade the values and condition of the landscape and its features also need to be identified. Threats include an increase in usage or the potential for siltation into waterways, for instance.

Impact mitigation

Different components of the cultural landscape will almost certainly require different treatments or impact mitigation measures in order to safeguard the identified values. A range of treatments can be identified and applied to different components at different scales, perhaps at different points in time. Information to consider when identifying impact mitigation measures include:

- Requirements for the retention of significance should identify any requirements for the maintenance of the cultural significance of the site. For instance, the 'keystone' components of the place are considered central to its meaning and significance -may be listed, and actions that are necessary to conserve them identified.

- Physical condition: Is a landscape feature degraded beyond redemption? Community expectations should also be considered and may include community sensitivities about the investigation and treatment of certain places.

A number of conservation measures are set out in the Burra Charter, for the conservation of places with cultural significance[14]. These also apply to the conservation of intangible values within a cultural landscape. Approaches include;

[13] Godwin L 2011

[14] Australia ICOMOS 1992:47-60; Burra Charter - conservation plan; Australian Heritage Commission 2011.

- No action: take no action to intervene -but make sure to thoroughly document the existing condition of the landscape or feature.

- Preservation: maintain the fabric (ie the physical material) of a place in its existing state, by taking action to retard further deterioration.

- Restoration: return the existing fabric of a place to a known pre-existing condition, without the introduction of new material.

- Reconstruction: return the place as nearly as possible to a known earlier state, with the introduction of new materials into the fabric.

- Adaptation: modify the place to enable a proposed compatible use to take place. 'Compatible use' refers to uses which involve no change to the culturally significant fabric; uses which involve changes which are substantially reversible, or uses in which changes involve only a minimal impact.

Where disturbance to a place is permitted, mitigation measures may be required as a condition of project approval. In cases of unacceptable impact, the proposal may need to be modified or abandoned. Questions to ask include; Where the impact is likely to be adverse, are any alternatives to the proposal as it stands? Can the impact be minimised? Are there any conditions that should form part of an approval?

As noted above, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Convention for the Safeguarding of the Intangible Cultural Heritage (2003) focuses on 'safeguarding' the processes from which the intangible values arise whilst the ICOMOS Burra Charter Practise Note on Intangible Cultural Heritage (2017) outlines ways to 'sustain cultural practises' involving collaboration between the associated communities and the place manager. These approaches have also been considered.

A new conservation tool called 'Intangible Aboriginal Cultural Heritage Agreements' is proposed in NSW which will aim to conserve Aboriginal practices, representations, expressions, beliefs, knowledge and skills (OEH 2017: 30), in line with national and international cultural heritage management practices. A similar management approach is currently available under the NSW Environmental Planning and Assessment Act 1979; an area can be scheduled in the Shire Council's Local Environmental Plan as a Heritage Conservation Area and an accompanying Landscape Management Plan can be developed.[15]

[15] Donaldson and Barry (2008).

2.0 BRIEF LITERATURE REVIEW

2.1 Curr 1887

The Hunter Valley section of Edward Curr's 1887 publication 'The Australian Race: its origins, languages, customs' is based on investigations undertaken by Robert Miller who lived in the Hunter River district since 1841 [Curr 1887: 352].

At that time the 'Wonnarua tribe' were said to have 'occupied the Hunter and all its tributaries from within ten miles of Maitland to the apex of the Liverpool Ranges, an area which he sets down at two thousand square miles…' [Curr 1887: 352].

It was found that 'the Wonnarua had some idea of a Great Spirit, but what the idea was my informant does not know. They had, too, a custom of daubing their hands and feet with a com- pound of fat and red ochre, and then impressing them on the sides of caves. The canoes were sheets of bark, cut from suitable trees in such a manner as to give a little elevation to the sides and ends. Fish they caught with nets and three-pronged spears…..' [Curr 1887: 353-4].

Curr also collated a Wonnarua word list, mainly based on the work on Miller [1887: 354-7].

2.2 Fawcett 1898

In Fawcett's 1898 Notes on the Customs and Dialect of the Wanna-ruah Tribe, Fawcett described the Wonaruah people in the following way:

> 'The Wonnah-ruah tribe of aborigines inhabited the Hunter River district in New South Wales. Their tribal district had an area of upwards of 2000 square miles, and included all the country drained by the Hunter River and its tributaries. Fifty years ago they mustered a large population, totalling between five and six hundred individuals. Half a century of British debauchery, diseases, and vice, and their accompaniments, have almost wiped them out altogether.
>
> Their tribal boundaries were both well-defined and clearly understood both by themselves and the members of their neighbouring tribes. So strictly were all rights and privileges understood, that for one tribe to enter into the district of another in pursuit of game was considered an offence of great magnitude and a good ground for a hostile meeting. They had no permanent settlements, but roamed about from place to place within their tribal district, in pursuit of game and fish, which was their chief sustenance, making use periodically of the same camping grounds, generation after generation, unless some special cause operated to induce them to abandon them. In choosing the site, proximity to fresh water was one essential, some food

supply a second, whilst a vantage ground in case of attack from an enemy was a third important item.

The daily work of the men consisted in hunting kangaroos, wallabies, and other animals, and the manufacture of weapons. The daily life of the women consisted in fishing for mullet and whiting, in gatheringoyste1'8 and other shell fish, in digging for roots, in carrying wood and water, and in keeping the fires alight and cooking.

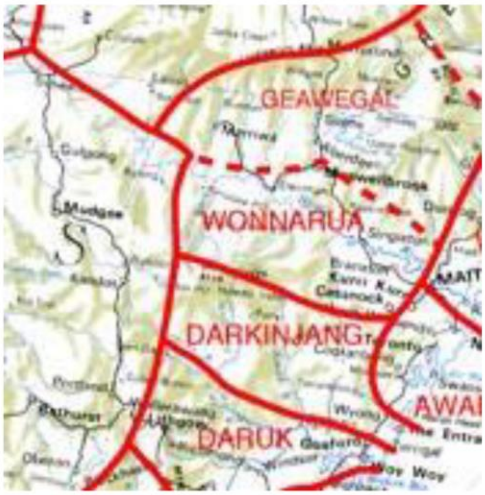
For food they ate kangaroos, wallabies, bandicoots, kangaroo rats, opossums, rats, emus, snakes, lizards, fish, caterpillars, grubs, lava of wasps and other insects, etc., and other animals, birds, reptiles, etc., found in their district. They used also a variety of bush fruits and roots, one of the latter being that of the water lily….' [Fawcett 1898: 152].

Fawcett also described laws and customs associated the life cycle rituals [1898: 152 – 154].

2.3 Tindale 1940 [1974]

Tindale found that the Wonnarua tribal area was located in the 'Upper Hunter River from a few miles above Maitland west to Dividing Range. The southern boundary with the Darkinjang is on the divide north of Wollombi'.

Tindale's findings were based on the work of Miller in Curr [1887]; Mathews [1897]; Fawcett [1898]; Enright [1901], as well as his own investigations in 1940. Alternative names for the Wonnarua are Wonnuaruah, Wannerawa, Wonarua, and Wonnah Kuah.



Excerpt from Tindale's 1974 tribal map

2.4 Miller 1985

Miller's 1985 book 'Koori: A Will to Win: The Heroic Resistance, Survival and Triumph of Black Australia' provides an Aboriginal perspective on the Aboriginal experience in the Hunter Valley. The author describes himself as being of 'the Gringai clan of the Wonnarua people, who inhabited the Hunter Valley'. Miller describes his country in the following way:

> *'The land of the Wonnarua not only held human and animal life. It was the home of spirits – spirits who were born in the Dreaming. The land was full of spirits. They had their own territories localised in rocks, trees, the river and its creeks, the mountains and gullies….' [Miller 1985: 1].*

The publication covers the social, cultural, historical and political life of the Wanaruah people over time and provides a framework for tracing ancestry for the current generation.

2.5 Brayshaw 1986

Brayshaw studied colonial records as a way to describe the 'Aborigines of the Hunter Valley' for the Scone and Upper Hunter Historical Society. A few key points include:

- The small pox epidemic of 1789 in Sydney is likely to have reached the Hunter Valley tribes prior to first contact a few decades later;
- Exploration in the region began around 1822 with settlement in Ravensworth in 1824 and other cattle stations across the Hunter Valley by 1827;
- Rich in flora, fauna and fresh water;
- Aboriginal use of fire to manage the landscape, to signal, to attract game and deter Europeans;
- The tribal systems in the Hunter Valley Region are not easy to define, since tribal organisation mostly broke down well before it was recorded and those recordings were made by untrained observers;
- The basic subsistence unit would have been the local horde or band, consisting of a collection of families, which cooperated in hunting and gathering;
- Ownership of land rested with larger clans or descent groups;
- Each tribe consisted of many clans, and the members of each tribe shared the same language, social customs and territory;
- Howitt was the first to document tribal affiliations across the Hunter Valley in 1904 [Wonaruah and Kamilaroi];
- Inland burial was usually marked by carved trees;
- Belief in an All-Father sky deity who appeared under a variety of names including Baiame;
- Trading routes existed between the Hunter Valley and the Hawkesbury [along the Boree Track], and between the Hunter Valley and the coast at Brisbane Waters;
- Starvation and conflict lead to a decline in population in mid-19th century.

2.6 Davidson and Lovell-Jones 1993

Davidson and Lovell-Jones's 1993 report to Resource Planning Pty Ltd 'Ethnographic Investigations: Proposed Bayswater No. 3 Colliery Authorisation Area (A437)' has a clear focus on the nearby Mt Arthur. It does however describe some features of the local ethnographic context:

- Because of the quick and violent nature of the contact period there is little information about Aboriginal cultural life of the Upper Hunter District. The first land selection occurred in 1821 and the first reported conflict occurred in 1825;
- Some ethnographic information was gathered and collated by Curr [1887], Miller [1986], Wood [1972] and Brayshaw [1966];
- Tindale [1974] indicates that the Mt Arthur area is within the Wanaruah language region;
- There are no records to describe tribal distributions prior to the late 1800s;
- The Wanaruah people were first described as 'Wonnah-Ruah' by Fawcett in 1898;
- Daily life consisted of fishing, hunting and use of fire to manage the landscape;
- Aboriginal occupation and camps were located close to water and available food;
- There are few Wanaruah people today that experienced traditional life, but they have retained a 'strong sense of personal and corporate identity as Aborigines. Many aspects of their culture have traditional elements. They have retained social organisation based on extended kinship networks with traditions of support and sharing and have a strong relationship with the land';
- Mt Arthur was found to be a significant site in association with a past massacre.

Davidson and Lovell-Jones's 1993 report 'The Military Suppression of Wanaruah Resistance in the Upper Hunter 1826: Mt Arthur and Surrounding Area' investigates records associated with potential massacres or murders of Wanaruah people in the Mt Arthur area in the 1820s. The Wanaruah resistance led to the government dispatching mounted police in an area including Muswellbrook, Falbrook and south to the Hunter.

The investigation found that 'the suppression of Wanaruah resistance in the Upper Hunter was particularly brutal and was officially sanctioned….'. Davison concluded that 'it is not possible to find the exact location of where the bodies fell from the written record. However, the arena of battle, in other words the whole area over which the resistance and its suppression ranged is in fact as significant as where the bodies fell…' [Davidson 1993: 11 – 12]. Further oral history and archaeological investigations were recommended.

2.7 Blyton, Heitmeyer and Maynard 2004

The Muswellbrook Shire Aboriginal Reconciliation Committee published 'A History of Aboriginal and European Contact in Muswellbrook and the Upper Hunter Valley' [2004]. Whilst the entire publication is relevant to this assessment, the following key points are of particular interest:

- 1838 – Myall Creek Massacre / conflict
- Frontier war / conflict
- Establishment of two Aboriginal Reserves in the Upper Hunter late 19th century; one at Caroona [originally Walhollow Station] established in the 1870s and one at Carrowbrook [known as St Clair or Mt Olive Station].
- 1945 - Establishment of St Helier near McCullys Gap, as an orphanage associated with the stolen generation.
- Coquun – name for the Hunter River

2.8 Tickle 2014

The MOUNT PLEASANT ORAL HISTORY PROJECT was undertaken by Rob Tickle for Coal & Allied [Tickle 2014]. Tickle interviewed 18 non-Aboriginal people and prepared an oral history of the Mt Pleasant area 'before local residents are dispersed' as a result of the then proposed mine at Mount Pleasant. There is passing refence to possible scar trees in the region [Tickle 2004: 11]

The MOUNT PLEASANT HISTORIC HERITAGE STUDY was undertaken by Rob Tickle for Rio Tinto [Tickle 2014]. Whilst this report has a clear focus on built European Tickle describes the local Aboriginal people and culture in the following way:

> '…The Aboriginals of the Muswellbrook area, and specifically the Mount Pleasant study area, were similar to Aboriginals in the broader sphere. They were practicing the most ancient form of human culture; hunter gathering and were closely tied to the country they inhabited. They had lived in harmony with the country and were part of the landscape, until the arrival of the British in 1788. Their culture was entwined with the Hunter River, it tributaries and the surrounding landform. This harmony was first shattered by the introduction of European disease. There was an outbreak of smallpox among Sydney Aboriginals in 1789, but none among the Europeans. There has been speculation that the disease came from Malays in the north and recent research supports that view. While the introduced diseases had an impact on the Hunter Valley Aboriginal lifestyle, it was not as devastating as was the arrival of European settlers in the early 1820s. By 1828, when the census was taken, the Hunter Valley had become one of the most important agricultural areas in NSW. The valley contained 19% of the alienated land, 9% of the NSW population, along with 18% of the cattle
>
> This rapid expansion caused open disputes between Europeans and Aboriginals with resulting deaths. This period of violence did not last long, but this did not mean a solution had been found for the dispossessed Aboriginals. It would appear that the remaining Aboriginals drifted to towns and major stations to eke out a living. In 1847, the Muswellbrook Police reported that the issue of blankets to Aboriginals had been withheld. In 1852, Captain Pike of Pickering was using Aboriginals to help run his boiling down works while in 1860 Scone police issued approximately 20 blankets to Aboriginals. In the 1880s local Aboriginals were selling flattened

> sheets of bark for roofing to the selectors. This indicates that there were still some Aboriginals in the area, but certainly not living in their traditional way. In 2013, the only evidence of Aboriginal occupation in the landscape is the archaeological evidence. This indicates a widespread use of the land…..'. [Tickle 2014: 37 - 38].

See also SEA 2020 Sections 3.3.5-3.3.7 and Goodall [1996].

2.9 South East Archaeology 2020

A great deal of relevant material has already been reviewed for the Mount Pleasant Optimisation Project State Significant Development [SSD] Application by SEA [Kuskie 2020]. Of particular interest is the plant resources table developed by Umwelt [2008] which contains potential Aboriginal uses [SEA 2020: 21 – 22]; the land use history [2020: 24 – 25]; the synthesis of the archaeological context [2020: 115 – 116]; the discussion on group identity and boundaries [2020: 116 – 118]; cultural use of natural resources [2020:119 – 121] and how nearby topographical features such as Mt Arthur *may* have been associated with Aboriginal religious practises [2020: 122].

According to Kuskie, 'there would have existed a variety of faunal resources available for exploitation by the local Aboriginal inhabitants. Enright (1914) listed species that may have been present, including various birds, snakes, wombat, grey kangaroo, wallaroo, red wallaby, koala, bandicoot, possum, fruit bat, lizards, goanna, pademelon, flying squirrel and native cats. Freshwater fish would have been present in the watercourses, particularly the Hunter River, along with freshwater mussels and crayfish. …… it is evident that a range of plants and animals would have been available for exploitation by Aboriginal occupants of the locality, many on a seasonal basis. In terms of taphonomy, introduced animals such as cattle, sheep, horses, foxes, domestic dogs and cats, rats, mice, rabbits and hares may also be present or have occupied the SSD Area in recent times. Some of their activities may have promoted compaction or mixing and mounding of soil, resulting in impacts to the integrity of archaeological deposits….'[2020: 23].

Other than artefact scatters which have been at MPO, Kuskie noted that 'other site types have been recorded in the Hunter Valley, including grinding grooves, middens, bora and ceremonial sites, burials, scarred trees, stone arrangements, rock shelters with art, fish traps and places of contemporary or traditional Aboriginal significance. These provide evidence of the diverse range of Aboriginal behaviour reflected in the heritage resource, including subsistence, technology, material culture, spiritual practices and social behaviour…'. [2020: 116].

3.0 CONSULTATIONS

3.1 Consultation Record

As noted above, due to Covid – 19 restrictions, face – to – face consultations were replaced with telephone interviews. Initial introductory telephone discussions and emails were undertaken where potential participants were informed about the proposed works associated with the Mount Pleasant Optimisation Project and the nature of the additional assessment, including the likely future use of the information they provide. When Free, Prior and Informed Consent [FPIC] was given, telephone interview was undertaken.

Date	Person Contacted	Organisation	How Contacted	Contacted By	Organisation	Description
07/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	Stephen Talbott	Gomeroi Namoi Traditional Owners	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	Barry Anderson	Lower Wonnarua Tribal Consultancy PTY LTD	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
07/09/2020	Tracey Skene	Culturally Aware	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
14/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone & email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via

						email for consideration / informed consent.
18/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Confirmation of interview participation.
18/09/2020	Tracey Skene	Culturally Aware	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Rhonda Griffiths	Hunter Valley Aboriginal Corporation	Telephone & email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.
18/09/2020	John and Margaret Matthews	Aboriginal Native Title Consultants	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left [with Michele] about additional assessment with my contact details.
18/09/2020	Anne Hickey	Gidawaa Walang CHC	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Barry Anderson	Lower Wonnarua Tribal Consultancy PTY LTD	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Aliera French	Aliera French Trading	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via

						telephone. Conformation of interview.
18/09/2020	Stephen Talbott	Gomeroi Namoi Traditional Owners	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.
18/09/2020	David Horton	Gomery Cultural Consultants	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Undertook brief interview.
18/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Undertook interview.
18/09/2020	Rhoda Perry	Upper Hunter Wonnarua Council Incorporated	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Undertook brief interview.
18/09/2020	Maree Waugh	Wallangan Cultural Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Suzie Worth	Wanaruah LALC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details; followed by provision of information via email for consideration / informed consent
18/09/2020	Anne Hickey	Gidawaa Walang Cultural	Telephone	Susan Dale Donaldson	Environmental and Cultural	Message left about additional assessment with

		Heritage Consultancy			Services	my contact details.
18/09/2020	Paulette Ryan	HTO Environmental Management Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Jenny-Lee Chambers	JLC Cultural Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	Susan Cutmore	Moreeites	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
18/09/2020	**Scott Franks**	**Tocomwall PTY LTD**	**Telephone and email**	**Susan Dale Donaldson**	**Environmental and Cultural Services**	**Briefing on additional assessment via telephone followed by provision of information via email for consideration / informed consent.**
19/09/2020	George Sampson	Cacatua General Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Interview phone call. No answer. Message left.
19/09/2020	Allen Paget	Ungooroo Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
19/09/2020	Rhonda Ward	Ungooroo Cultural and Community Services Inc.	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone. Set interview time.
19/09/2020	**Des Hickey**	**Wattaka Wonnarua Cultural Consultants Service**	**Telephone**	**Susan Dale Donaldson**	**Environmental and Cultural Services**	**Briefing and discussion on additional assessment via telephone.**
19/09/2020	Arthur Fletcher	Wonnarua Elders Council	Telephone	Susan Dale Donaldson	Environmental and Cultural	Message left about additional

		Inc.			Services	assessment with my contact details.
19/09/2020	Kathleen Steward-Kinchela	Yinarr Cultural Services	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
19/09/2020	Kylie Pascoe	HVAC	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details.
21/09/2020	**George Sampson**	**Cacatua General Services**	**Telephone**	**Susan Dale Donaldson**	**Environmental and Cultural Services**	**Undertook interview.**
21/09/2020	Tracey Skene	Culturally Aware	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration. Arranged interview time.
21/09/2020	Rhonda Ward	Ungooroo Cultural and Community Services Inc.	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Interview phone call. No answer. Message left.
21/09/2020	Stephen Talbott	Gomeroi Namoi Traditional Owners	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Follow up phone call. Message left.
21/09/2020	Kylie Pascoe	HVAC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Briefing on additional assessment via telephone followed by provision of information via email for consideration.
21/09/2020	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Reviewed interview.

22/09/2020	Rhoda Perry	Upper Hunter Wonnarua Council Incorporated	Email	Susan Dale Donaldson	Environmental and Cultural Services	Reviewed interview.
23/09/2020	Tracey Skene	Culturally Aware	Telephone	Susan Dale Donaldson	Environmental and Cultural Services	Discuss and set another date for interview.
27/09/2020	Tracey Skene	Culturally Aware	Telephone / text	Susan Dale Donaldson	Environmental and Cultural Services	Left text and voice message.
05/10/2020	Noel Downs	Wanaruah LALC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Message left about additional assessment with my contact details; followed by provision of information via email for consideration / informed consent.
06/10/2020	Noel Downs	Wanaruah LALC	Telephone and email	Susan Dale Donaldson	Environmental and Cultural Services	Planning interview
07/10/2020	**Noel Downs**	**Wanaruah LALC**	**Telephone**	**Susan Dale Donaldson**	**Environmental and Cultural Services**	**Interview undertaken**
13/10/2020	Noel Downs	Wanaruah LALC	Email	Susan Dale Donaldson	Environmental and Cultural Services	Interview review

In summary, twenty-five [25] individuals were contacted and of these seven [7] were interviewed.

3.2 Consultation data

All participants were informed about the proposed works associated with the Mount Pleasant Optimisation Project and the nature of the additional assessment, including the future use of the information they provide.

RHODA PERRY interviewed 18th and 22nd September 2020

Rhoda grew up around the Hunter Valley; 'we are the people of the hills and plains which means Wonnarua'. For Rhoda, the Hunter Valley ''is all important country. Before the Europeans came it was all good country. The archaeology was there before the Europeans. Where they trod and walked before, along their tracks and at their camps with their songs and ceremonies. But now, today, after the land

grants and the fences, then the cattle came in and the mine and buildings. Our people can't get in with fences and we have to abide by trespass laws. We are restricted now; it is different for us. That is all in the past. You can't reverse the past. It is all gone over time'.

Rhoda is concerned that there are 'too many people speaking about other people's country; it isn't right that people can have a say about other people's country. There are laws that have been passed down about respecting each other. Other Indigenous people acknowledge Traditional Owners and respect them. ..'. Rhoda would like to see MACH working with Traditional Owners. For Rhoda 'the Wonnarua Nation, our people are the Traditional Owners, we are the right people to speak on country. Traditional Owners should decide which RAPS get work on our country. We need to set up a structure so that all people can benefit, we can all come together and talk. There is a way. We need new ideas.'

LAURIE PERRY interviewed 18th September 2020

As a child, Wonnarua man Laurie Perry recalls driving past the Mt Pleasant area which at the time was farm land. Mt Pleasant is within Laurie's country.

Laurie was told important oral stories associated with St Clair, Mt Arthur and Ravensworth, but not Mt Pleasant. According to Laurie, 'no stories about Mt Pleasant were handed to me from my Elders'.

Laurie is not aware of any Aboriginal people who worked on the farm before the mine was developed. He also hasn't heard of any stories from non-indigenous families about the Aboriginal significance of Mt Pleasant, nor has he seen any evidence in the written record.

The Mt Pleasant area is very important to Laurie because it contains evidence of the previous occupation of his ancestors. The archaeological sites allow him to think about the people that were once there; his ancestors. Laurie connects to his cultural heritage through these sites. For Laurie, the archaeological heritage and his connection to that heritage is the only cultural value associated with Mt Pleasant today. Laurie presumes Mt Pleasant was valued in the past as a high point, a look out to view the surrounding landscape including Mt Arthur to the south and Castle Rock to the north west.

Laurie has never heard of any traditional pathways through the Mt Pleasant area, but presumes the area was used as a hunting ground and as a travelling route linked to the nearby creeks and river.

Laurie feels that Traditional Aboriginal Owners / Native Title Holders should have a greater role in making decisions about the Mt Pleasant Operation, as part of their role as custodians caring for their country.

STEPHEN TALBOTT 18th September 2020

Stephen was briefed about the assessment process and expressed concern about the future use of information collected from himself and other Aboriginal people.

Stephen felt that a cultural values assessment was needed prior to the archaeological salvage and prior to the mine being developed. For Stephen 'doing the salvage first breaks the line of cultural values'. From Stephen's perspective, it is possible that there would have been trading through the Mt Pleasant area.

DAVID HORTON 18th September 2020

David remembers the Mt Pleasant area before the mine was developed. The area was used for cattle and horses. He thought that Aboriginal people weren't allowed to work on the farm, but he wasn't too sure.

David collected cray fish from the Hunter River where he camped overnight near the Kayuga Bridge. He also recalls catching eels in the river and cooking the eels on hot fire rocks and coals on the river banks. The water in the Hunter River use to be clean and flow.

RHONDA GRIFFITHS 18th September 2020

Rhonda is not originally from the Muswellbrook – Mt Pleasant area, but has lived in the area for some time. Rhonda recalled that the Mt Pleasant area was historically associated with the Blake family, whose ancestors continue to reside in the local area. Rhonda is of the understanding that the Blake family employed Aboriginal people to work on the farm, and as such might have some historical information about the property and Aboriginal people's associations to it.

Rhonda will seek information about the Blake family for this assessment process.

SCOTT FRANKS 18th September 2020

Scott was briefed about the assessment process and expressed concern that the RAPs may not be Wonnarua knowledge holders. He was also concerned that the process has the potential to impact on the outcomes of anthropological research already done and questioned why there had been 'no communication' with PCWP. Scott felt that this additional assessment process needed to be approved by the PCWP / PBC.

DES HICKEY 18th September 2020

Des was briefed about the assessment process and expressed concern that, as a Traditional Owner, he has not been involved in the archaeological assessment. He would have involved himself in this

additional assessment, if he has of been included from the beginning. He is willing to be involved in any future assessments and would prefer if people from 'other areas' didn't get involved in cultural heritage matters within his country.

GEORGE SAMPSON 21st September 2020

George's ancestors were from Maitland and Singleton. George worked at Muswellbrook, Caroona and Walhallow. His grandparents did not share any stories with him about Mt Pleasant. Throughout his life, when he and his family drove through the Mt Pleasant area, no stories where told and they never felt the need to stop there.

George recalls Aboriginal people working on farms in the Sandy Hollow, south west of Mt Pleasant, but he isn't aware of Aboriginal people working on the dairy farm at Mt Pleasant, before the mine was built.

Since 1978 George has camped and fished along the Hunter River, in particular near Bengalla, south west of Mt Pleasant, and Kayuga, north of Mt Pleasant. George considers the Hunter River as 'important camping ground for fishing'. Over the years George has caught catfish, eel, perch, fresh water mullet and even carp. He gathers yabbies for bait and normally uses a hand line to fish. If camping by the Hunter River, George will cook the fish in hot coals on the riverbank and prefers to eat smaller eels rather than the larger ones because they are sweeter.

George understands that 'there must have been Aboriginal people at Mt Pleasant because of all the artefacts they left behind. There is a high point there so it would have been a good lookout'. For George, the archaeological heritage is culturally important to him because 'it tells the story that *we* were there years ago. Each artefact tells the story about how our people over the years come and go, not as a one off, they used that place over time, over seasons'.

As a Traditional Owner, George feels that the best place for salvaged artefacts is 'on country' because 'that's where they were left, they tell the story for the place they were left, at Mt Pleasant, so they should stay there, either buried on country or displayed on country. If they were taken elsewhere, they would have no significance'. He has suggested MAC develop a glass cabinet artefact educational display in their office, on site, on country. George would like to see the archaeological artefacts buried on site when the mine finishes or on remaining land [not impacted by the mine], where the artefacts 'will be safe'.

NOEL DOWNS 7TH OCTOBER 2020

Noel noted that he was not Aboriginal himself and described the tribal groups across the Upper Hunter. He noted that Wanaruah people say that the Muswellbrook / Mount Pleasant area is Wanaruah and the Kamilaroi people says it is Kamilaroi. Overall, there is a localised and regional identity depending on context.

The Hunter River and Muscle Creek which flows through the township of Muswellbrook is damaged as a result of pollution and rubbish. Frogs and eels used to be collected in Muscle Creek, but not any longer.

The Aboriginal workers camped at the 'Railway camp' would string a net across Muscle Creek and catch fish, they'd keep enough to feed the camp that night and release the rest. The children would catch frogs and hold frog races.

The Hunter River is valued as a place to swim, fish and to gather with families. A buffer zone has been bought by the mine which could provide community access to the Hunter River, which is inaccessible due to private landholdings. Water is a valued resource, culturally. The natural environment is an asset for the Aboriginal community. An Aboriginal committee could be established to look after the Hunter River through bush regeneration and weed control, rubbish removal. Cultural practises associated with land management are an important way for Aboriginal people to become involved in their country. The use of fire for instance and cleaning up waterways.

The movement of Aboriginal people in the past along 'song lines' and more recently out of the area onto reserves / missions across the region is culturally significant.

The archaeological objects are valued as they are a recorded of where people were.

Today there are lots of isolated communities, not just one community, so all need to be consulted. It would be good if people stopped worrying about what language group they belong to, and focus on the places where their ancestors came from and where people live today. A good decision-making process empowers Aboriginal people to achieve their own goals.

An Aboriginal cultural learning centre, would be a helpful way of bringing people together and getting people interested in their own cultural practises such as basket weaving, as well as any other courses people are interested in undertaking.

It would be good to do a cultural values meeting / workshop at the Muswellbrook RSL as a way to capture more views.

4.0 SYNTHESIS OF INFORMATION

This assessment has not identified any specific sites or areas of cultural significance within the SSD area or across the surrounding landscape that require protection under the National Parks and Wildlife Act 1974 as an Aboriginal Place or under the NSW Environmental Planning and Assessment Act 1979 as an Aboriginal Heritage Conservation Area Muswellbrook Shire Council's Local Environmental Plan.

This brief assessment has however highlighted a number of cultural heritage themes associated with Mt Pleasant and the surrounding landscape including:

- The important cultural connections held by Aboriginal people today to the ancestral past through archaeological objects;
- The historic resistance of Wanaruah ancestors to colonisation is valued by Wanaruah people today; the past acts are an integral part of contemporary Wanaruah cultural identity and form part of people's attachment to place;
- The customary right to care for and make decisions about one's traditional land is important to Wanaruah people today; and
- The ongoing cultural use of natural resources, including water, across the landscape is an important cultural practise for Wanaruah people today.

Each of these cultural value themes is described below, with accompanying cultural heritage management recommendations.

CONTEMPORARY CULTURAL CONNECTIONS TO THE ANCESTRAL PAST THROUGH ARCHAEOLOGICAL OBJECTS

Today, Aboriginal people hold important cultural connection to the tangible items left behind by their ancestors, to the archaeological record. The historical narrative, based on the archaeological evidence, becomes integrated into Aboriginal people's contemporary identity and forms the basis of their connection to their land and to their cultural heritage. Past ancestors and their actions are referred to in a collective sense inclusive of the current generation; 'we' rather than 'they' dropped or placed these items on the ground a long time ago.

Reflecting on the time taken to create the archaeological record compared with the time associated with dispossession to the same place, to find and relocate the evidence, creates a sense of sadness

amongst the owners. However, this cultural loss seems to increase the value placed on these items left behind. Moving the objects away from country for storage and or display is viewed as a further loss. Placing them on display and using them as an educational tool is a way to make the best out of a challenging situation.

- *Acknowledge and respect Aboriginal people's cultural connection to the past through archaeological objects;*
- *Consider storing salvaged archaeological objects locally [on site] as a way to maintain the specific cultural association between the object, the land, the past, present and future;*
- *Use salvaged objects for educational purposes, locally.*

THE RESISTANCE FORMS PART OF PEOPLE'S ATTACHMENT TO PLACE

The resistance of Wanaruah people to colonisation is an integral part of contemporary Wanaruah cultural identity and forms part of people's attachment to place. Wanaruah ancestors involved in the resistance fought to protect their country and kin, and in doing so lost a great deal. The entire landscape represents the battle ground, even though particular conflict sites have been discovered. Other conflict sites may remain to be discovered.

- *The historical resistance of Wanaruah people to colonisation could be safeguarded by raising public awareness of the past and acknowledging the strength of the ancestors involved;*
- *Continue to investigate the location of potential conflict sites in the region.*

THE RIGHT TO CARE FOR AND MAKE DECISIONS ABOUT ONE'S TRADITIONAL LAND.

The colonial dispossession faced by Aboriginal people in the Mt Pleasant area, particularly past acts associated with a massacre at a nearby location, land grants and the fencing off of ancestral lands, has had intergenerational impacts that continue to be felt by Aboriginal people today. The period of time in which Aboriginal people were locked out of the Mt Pleasant area combined with the movement of people away from the area to reserves and missions across the region has led to a cultural knowledge gap, common across the continent.

It may be the case that some Aboriginal families were able to maintain a connection to Mt Pleasant through their direct participation in the farming labour force, but this has not been established to date.

Across the continent ancient Aboriginal laws and customs formed the basis of the traditional land tenure system which provided groups of people certain rights and responsibilities to certain lands, including how to look after country and how to make decisions about things that may affect country. These processes remain just as relevant today, as they did in the past, even if they have been adapted.

Tangible and intangible boundaries existed and continue to exist. These boundaries need to be identified, acknowledged and respected. Shared or conflicted country has always been part of the Aboriginal land tenure system, particularly in boundary zones and less watered areas.

Decision making responsibilities and enabling Aboriginal people to care for their own country should rest with Traditional Owners / Native Title Holders and where land is shared or conflicted a process needs to be built into the engagement framework to cater for multiple parties until such a time that roles and responsibilities are determined.

- *Facilitate dispute resolution between groups to determine areas of cultural interest and a process to ensure decision making is an inclusive process that enables Traditional Owners / Native Title Holders to look after their own country and cultural heritage.*

CONTEMPORARY CULTURAL USE OF NATURAL RESOURCES ACROSS THE LANDSCAPE

The Hunter River flows from the Great Dividing Range at Barrington Tops to the Pacific Ocean passing by the eastern extent of Mt Pleasant Operations. Aboriginal people's contemporary and pre contact use of this natural resource is a valued aspect of their cultural heritage and practise. Camping close to this fresh water source and being able to gather and cook a meal is integral to contemporary Aboriginal cultural identity. Performing the activity creates a sense of connection between the present and the past given their ancestors, are likely to have been undertaking the same or similar activity, in the same location if not nearby.

- *As public land access to private land continues to reduce, for non-land owners, it is important that the remaining accessible space is maintained;*
- *Public access to the Hunter River to days trip and overnight camping is encouraged as a way to enable cultural practises associated with the use of natural resources.*

5.0 RECOMMENDATIONS

No specific sites or areas were identified that require specific and direct impact mitigation actions.

Some more general recommendations have been formulated as a way to safeguard the identified cultural values:

CONTEMPORARY CULTURAL CONNECTIONS TO THE ANCESTRAL PAST THROUGH ARCHAEOLOGICAL OBJECTS

- *Acknowledge and respect Aboriginal people's cultural connection to the past through archaeological objects;*
- *Consider storing salvaged archaeological objects locally [on site] as a way to maintain the specific cultural association between the object, the land, the past, present and future;*
- *Use salvaged objects for educational purposes, locally.*

THE RESISTANCE FORMS PART OF PEOPLE'S ATTACHMENT TO PLACE

- *The historical resistance of Wanaruah people to colonisation could be safeguarded by raising public awareness of the past and acknowledging the strength of the ancestors involved;*
- *Continue to investigate the location of potential conflict sites in the region.*

THE RIGHT TO CARE FOR AND MAKE DECISIONS ABOUT ONE'S TRADITIONAL LAND.

- *Facilitate dispute resolution between groups to determine areas of cultural interest and a process to ensure decision making is an inclusive process that enables Traditional Owners / Native Title Holders to look after their own country and cultural heritage.*

CONTEMPORARY CULTURAL USE OF NATURAL RESOURCES ACROSS THE LANDSCAPE

- *As public land access to private land continues to reduce, for non-land owners, it is important that the remaining accessible space is maintained;*
- *Public access to the Hunter River to days trip and overnight camping is encouraged as a way to enable cultural practises associated with the use of natural resources.*

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Appendix 1 – Project interview question guide

Preliminary Assessment of Intangible Aboriginal Cultural Heritage MOUNT PLEASANT OPTIMISATION PROJECT, HUNTER VALLEY, NSW: STATE SIGNIFICANT DEVELOPMENT APPLICATION

NAME OF INTERVIEWEE: CONTACT DETAILS:

INTERVIEW TIME & DATE: INTERVIEW LOCATION:

BACKGROUND

What is your ancestral / tribal connection to the Muswellbrook – Mt Pleasant area?

Where did you grow up?

Have you ever been to Mount Pleasant? When [before or after the mine]? Why? Who with?

What do you know about the mine?

IDENTIFYING INTANGIBLE ABORIGINAL CULTURAL HERITAGE

Is the Mount Pleasant area important to you / your family / your ancestors? For what reasons?

What did you call the area before the mining operation began?

How would you describe your connection to the area?

Are there things that you do to maintain your cultural connection to the area?

Have you got any cultural / historical stories about the area from before the mining began?

Are there any places nearby that are culturally significant to you and or family / ancestors?

VALUES THAT HAVE ALREADY BEEN IMPACTED

Of these values, what remains?

What impacts have you seen to these values since the mining operation began?

Can you still do these things / maintain these connections?

IDENTIFYING FUTURE IMPACTS TO INTANGIBLE ABORIGINAL CULTURAL HERITAGE

What do you think about the next state of the project and your cultural heritage?

FUTURE MANAGEMENT OPTIONS OF INTANGIBLE ABORIGINAL CULTURAL HERITAGE

Are there particular ways you or your family look after your country? Do you think these ways could be applied to the management of this area, generally and in relation to important cultural sites?

Do you know how other Aboriginal groups across Australia are managing their cultural heritage in relation to mining operations / caring for country?

Do you have any thoughts on how Aboriginal people could become involved in caring for their own country?

Is there anything the mining company could be doing in relation to managing and acknowledging Aboriginal cultural association with the Mt Pleasant area?