17 Aboriginal heritage

17.1 Project changes

The rail spur and associated raw water pipeline route through an archaeologically sensitive area within the Yukon Paradise property has been slightly altered with the effect of avoiding three Aboriginal sites that were disturbed by the previous design. The area of the slightly altered path was previously assessed during the 2011–2012 fieldwork.

Altered emplacement areas east of Spring Ridge Road are more extensive and cover an area where previous plans placed the raw water dam, including those Aboriginal sites potentially affected by the dam. The raw water dam has been moved south-east and will not disturb any sites.

The new MIA access road and haul roads will affect archaeologically sensitive areas associated with Sandy Creek and Laheys Creek.

Slight expansions to mining impact areas will occur associated with modified haul road layouts associated with Blackheath Creek and mine water dams associated with Laheys Creek just south of the MIA.

17.1.1 Assessment method

The areas affected by the design changes were included in archaeological surveys and the resulting model of archaeologically sensitive areas developed from the survey and subsequent test excavations. Relevant data were included in computer mapping. An overlay of the design changes against the Aboriginal heritage mapping data was reviewed for this assessment by the Project archaeologist.

17.1.2 Environmental management

An Aboriginal Heritage Management Plan (AHMP) will be prepared to manage Aboriginal heritage values within the PAA. Management includes a salvage program for those Aboriginal sites and archaeologically sensitive areas disturbed by the Project, as well as protection of Aboriginal sites occurring close to mine activities. Changes to the management measures for Aboriginal sites are shown in Table 17.1.

Table 17.1 Aboriginal sites addressed by each management measure

Management	Number of Aboriginal sites – original Project impact	Number of Aboriginal sites – changed Project impact
Passive management: avoid	104	110
Active management: fence and avoid	46	46
Collect and set aside	15	11
Collect	58	53
Salvage and relocate	1	1
Salvage excavation	5	8
Total	**229**	**229**

17.1.3 Impacts

Project design changes have resulted in changes to impacts on Aboriginal heritage shown in Table 17.2. Nine Aboriginal stone artefact sites previously impacted by the original design will now be avoided. Eleven Aboriginal open stone artefact sites previously avoided by the original design will now be impacted. Changes in the number of sites impacted do not significantly change the overall findings of the ACHA.

Table 17.2 Impacts to Aboriginal heritage

Impact type	Original Project impact	Changed Project impact
Removed[1]	55	53
Partially removed[2]	8	10
Disturbed[3]	1	0
Partially disturbed[4]	15	9
Undisturbed	151	157
Total	**229**	**229**

Notes: *1.Removed is defined as total removal of a site's elements and the information they contain*

2. Partially removed entails the removal of a part of a site

3. Disturbed means Aboriginal sites and objects will be disrupted and moved a short distance through displacement of ground and results in removal of some site context and spatial patterning

4. Partially disturbed involves disturbance to a part of the site and the partial removal of site elements

To further quantify the impacts to Aboriginal heritage an assessment of impacts to archaeologically sensitive areas was completed. Areas of archaeological sensitivity include areas within 200 m of Laheys Creek and Sandy Creek, areas within 30 m of minor creeks and certain ridge and valley edge locations close to reliable water sources. Open stone artefact sites are typically located where erosion of the soil has exposed part of an artefact distribution normally buried in the soil. Therefore, archaeological deposit is inferred between open stone artefact sites along watercourses. The presence of archaeological deposit in these areas has been confirmed by the test excavations carried out for the Aboriginal cultural heritage assessment (Appendix I 'Test excavation report').

Out of a total of 1,830 ha of archaeologically sensitive area within the PAA, a total of 254 ha (14%) will be impacted. The majority of these impacted areas occur in the mining areas and the main infrastructure area where land close to major watercourses areas will be impacted.

All sites, impact and management measures are shown in Table 17.3. Those with revised impacts or management measures as a result of Project changes are highlighted in grey.

Table 17.3 Impacts to Aboriginal sites

Site type	Site name	Scientific significance	Project impact	Management
Aboriginal rock-shelter	CBR-RSH-01	Moderate	Mining Area A	Salvage excavation
Grinding grooves	CBR-GG-01	Moderate	None	Fence and avoid
	CBR-GG-02	Moderate	Mining Area C	Salvage and relocate
	Grinding Groove 01	Moderate	None	Fence and avoid
	Grinding Groove 02	Moderate	None	Fence and avoid
	Grinding Groove 03	Moderate	None	Fence and avoid
	Grinding Groove 04	Moderate	None	Avoidance
	Grinding Groove 05	Moderate	None	Fence and avoid
	Grinding Groove 06	Moderate	None	Avoidance
	Grinding Groove 07	Moderate	None	Avoidance
	Grinding Groove 08	High	None	Fence and avoid
	Grinding Groove 09	Moderate	None	Avoidance
	Grinding Groove 10	Low	None	Avoidance
	Grinding Groove 11	Moderate	None	Avoidance
	Grinding Groove 12	Moderate	None	Avoidance
	Grinding Groove 13	Moderate	None	Avoidance
	Grinding Groove 14	High	None	Fence and avoid
	Grinding Groove 15	Low	None	Fence and avoid
	Grinding Groove 16	Low	None	Avoidance
Hearth	Hearth 01	Moderate	None	Avoidance
	Hearth 02	Moderate	None	Avoidance
	Hearth 03	Moderate	None	Avoidance
	Hearth 04	Moderate	Mining Area A	Salvage excavation
	Hearth 05	Moderate	Mining Area A	Salvage excavation
	Hearth 06	Moderate	None	Avoidance
	Hearth 07	Moderate	None	Avoidance
	Hearth 08	Moderate	None	Avoidance
	Hearth 09	Moderate	None	Avoidance
	Hearth 10	Moderate	None	Fence and avoid
	Hearth 11	Moderate	None	Fence and avoid
	Hearth 12	Moderate	None	Fence and avoid
	Hearth 13	Moderate	None	Avoidance
	Hearth 14	Moderate	None	Avoidance
	Hearth 15	Moderate	None	Avoidance
Open stone artefact scatter	BBS Dubbo LALC Spring Ridge Road	Moderate	None	Avoidance
	BBS Dubbo LALC Travelling Stock Route	Moderate	None	Avoidance
	CBR-IF-01	Low	Mining Area A	Collection
	CBR-IF-02	Moderate	Mining Area A	Collection
	CBR-IF-03	Moderate	Mining Area A	Collection
	CBR-IF-04	Moderate	Mining Area B	Collection
	CBR-IF-05	Low	None	Avoidance

Table 17.3 Impacts to Aboriginal sites

Site type	Site name	Scientific significance	Project impact	Management
	CBR-IF-06a	Low	None	Avoidance
	CBR-IF-06b	Low	None	Avoidance
	CBR-IF-07	Low	None	Avoidance
	CBR-IF-08	Low	None	Avoidance
	CBR-OS-01	Moderate	Mining Area A	Collection
	CBR-OS-02	Moderate	Mining Area A	Collection
	CBR-OS-03	Moderate	Mining Area A	Collection
	CBR-OS-04	High	Mining Area A	Collection
	CBR-OS-05a	High	Mining Area A	Salvage excavation
	CBR-OS-05b	Moderate	Mining Area A	Collection
	CBR-OS-06	Low	Mining Area A	Collection
	CBR-OS-07	Moderate	Mining Area A	Collection
	CBR-OS-08	Moderate	Mining Area A	Collection
	CBR-OS-09 ‘Big Scald’	High	Mining Area A	Collection
	CBR-OS-10	Moderate	Mining Area A	Collection
	CBR-OS-11	Moderate	Mining Area A	Salvage excavation
	CBR-OS-11a	Low	Mining Area A	Collection
	CBR-OS-12 'Waterhole'	High	Mining Area A	Salvage excavation
	CBR-OS-13a	Low	Mining Area A	Collection
	CBR-OS-13b	Low	Mining Area A	Collection
	CBR-OS-14	Moderate	Mining Area A	Collection
	CBR-OS-15	Low	Mining Area A	Collection
	CBR-OS-16	Low	Mine dams	Collection
	CBR-OS-17	Low	None	Fence and avoid
	CBR-OS-18	Moderate	MIA	Collection
	CBR-OS-18a	Low	None	Fence and avoid
	CBR-OS-18b	Low	MIA	Collection
	CBR-OS-19	Moderate	Mining Area A	Collection
	CBR-OS-20	Low	Mining Area A	Collection
	CBR-OS-21	Moderate	Mining Area B	Collection
	CBR-OS-22	Low	RW pipeline	Collect and set aside
	CBR-OS-23	Low	None	Avoidance
	CBR-OS-24	Low	RW pipeline	Collect and set aside
	CBR-OS-25	Low	RW pipeline	Collect and set aside
	CBR-OS-29a	Moderate	Haul road	Collection
	CBR-OS-29b	Moderate	Haul road	Collection
	CBR-OS-29c	Moderate	Haul road	Collection
	CBR-OS-29d	Moderate	None	Avoidance
	CBR-OS-29e	Moderate	None	Avoidance
	CBR-OS-29f	Moderate	Mine dams	Collection
	CBR-OS-29g	Moderate	None	Avoidance
	CBR-OS-29h	Moderate	None	Avoidance
	CBR-OS-29i	Moderate	None	Avoidance

Table 17.3 Impacts to Aboriginal sites

Site type	Site name	Scientific significance	Project impact	Management
	CBR-OS-29j	Moderate	None	Avoidance
	CBR-OS-29k	Moderate	None	Avoidance
	CBR-OS-29l	Moderate	None	Avoidance
	CBR-OS-30	Moderate	Mining Area C	Collection
	CBR-OS-31a	Moderate	Mining Area B	Collection
	CBR-OS-31b	Low	Mining Area B	Collection
	CBR-OS-31c	Moderate	Mining Area B	Collection
	CBR-OS-31d	Moderate	None	Fence and avoid
	CBR-OS-31e	Low	Mining Area B	Collection
	CBR-OS-32	Low	None	Avoidance
	CBR-OS-33a	Low	Mining Area A	Collection
	CBR-OS-33b	Low	Mining Area A	Collection
	CBR-OS-34a	Moderate	None	Fence and avoid
	CBR-OS-34b	Low	None	Fence and avoid
	CBR-OS-35	Moderate	Haul road	Collection
	CBR-OS-36	Low	Emplacement	Collection
	CBR-OS-37a	Low	None	Avoidance
	CBR-OS-37b	Low	None	Avoidance
	CBR-OS-37c	Low	None	Avoidance
	CBR-OS-38a	Low	Emplacement	Avoidance
	CBR-OS-38b	Low	Emplacement	Collection
	CBR-OS-39a	Low	Emplacement	Collection
	CBR-OS-39b	Low	Emplacement	Collection
	CBR-OS-39c	Low	Emplacement	Collection
	CBR-OS-40	Low	Emplacement	Collection
	CBR-OS-41	Low	None	Avoidance
	CBR-OS-42	Low	Rail spur & RW pipeline	Collection
	CBR-OS-43	Moderate	Rail spur & RW pipeline	Collection
	CBR-OS-44a	Moderate	Rail spur & RW pipeline	Salvage excavation
	CBR-OS-44b	Low	None	Avoidance
	CBR-OS-45	Low	None	Avoidance
	CBR-OS-46a	Low	None	Avoidance
	CBR-OS-46b	Low	None	Avoidance
	CBR-OS-47a	Moderate	None	Fence and avoid
	CBR-OS-47b	Moderate	None	Avoidance
	CBR-OS-48	Low	None	Avoidance
	CBR-OS-49	Low	Rail spur & RW pipeline	Collection
	DTG/OC21 – Medway 2	Moderate	None	Avoidance
	DTG/OC22 - Sandy Creek	Moderate	None	Avoidance

Table 17.3 Impacts to Aboriginal sites

Site type	Site name	Scientific significance	Project impact	Management
	Fords Creek;Cobbora;	Moderate	None	Avoidance
	IF 01-Glass Flake	Low	None	Fence and avoid
	IF 02-Brown Silcrete Core	Low	None	Fence and avoid
	IF 03-Pounding Stone	Low	None	Fence and avoid
	IF 05-Ground Edge Axe	High	Mine dams	Collection
	IF 06-Grinding Bowl	Low	None	Avoidance
	IF 07-Hammer Stone	Low	None	Fence and avoid
	IF 08-Anvil	Low	None	Avoidance
	IF 09-Grinding Bowl	High	None	Avoidance
	IF 10- Grinding Bowl	High	None	Avoidance
	IF 11-Grinding Bowl	Low	None	Avoidance
	IF 12-Small Hammer Stone	Low	None	Fence and avoid
	IF 14	Low	None	Avoidance
	IF 15	Low	None	Collect and set aside
	IF 16	Low	None	Collect and set aside
	IF 17	Low	None	Avoidance
	IF 18	Low	None	Avoidance
	IF O4-Knife Sharping Stone	Low	None	Avoidance
	SAC 01	Moderate	None	Avoidance
	SAC 02	Low	None	Avoidance
	SAC 03	Low	None	Avoidance
	SAC 04	Low	None	Avoidance
	SAC 05	Low	None	Avoidance
	SAC 06	High	None	Avoidance
	SAC 07	Moderate	None	Avoidance
	SAC 08	Low	None	Fence and avoid
	SAC 09	Moderate	None	Avoidance
	SAC 10	Low	None	Avoidance
	SAC 11	Low	Mining Area A	Collection
	SAC 12	Moderate	Mining Area A	Collection
	SAC 13	Low	Mining Area A	Collection
	SAC 14	Low	None	Fence and avoid
	SAC 15	Low	None	Fence and avoid
	SAC 16	Low	None	Fence and avoid
	SAC 17	Low	None	Avoidance
	SAC 18	High	None	Avoidance
	SAC 19	Low	None	Avoidance
	SAC 20	Low	None	Fence and avoid
	SAC 21	Low	None	Fence and avoid
	SAC 22	High	None	Fence and avoid

Table 17.3 Impacts to Aboriginal sites

Site type	Site name	Scientific significance	Project impact	Management
	SAC 23	High	None	Fence and avoid
	SAC 24	Moderate	MIA	Salvage excavation
	SAC 25	Moderate	MIA	Collection
	SAC 26	Low	None	Fence and avoid
	SAC 27	Low	None	Fence and avoid
	SAC 28	Moderate	None	Fence and avoid
	SAC 29	Moderate	Haul road	Collection
	SAC 30	Low	None	Avoidance
	SAC 31	High	None	Avoidance
	SAC 32	Moderate	None	Avoidance
	SAC 33	Moderate	None	Avoidance
	SAC 34	High	None	Avoidance
	SAC 35	Low	None	Fence and avoid
	SAC 36	Moderate	None	Avoidance
	SAC 37	Low	Mining Area B	Collection
	SAC 38	Low	None	Fence and avoid
	SAC 39	Low	None	Avoidance
	SAC 40	Low	None	Avoidance
	SAC 41	Low	RW pipeline	Collect and set aside
	SAC 42	Moderate	RW pipeline	Collect and set aside
	SAC 43	Low	RW pipeline	Collect and set aside
	SAC 44	Low	RW pipeline	Collect and set aside
	SAC 45	Low	None	Avoidance
	SAC 46	Moderate	RW pipeline	Collect and set aside
	SAC 47	Low	RW pipeline	Collect and set aside
	SAC 48	Low	None	Avoidance
	SAC 59	Low	None	Avoidance
	SAC 60	Low	None	Avoidance
	SAC 61	Low	None	Avoidance
	SAC 62	Low	None	Avoidance
	SAC 63	Low	None	Avoidance
	Sandy Creek;Cobbora;	Moderate	None	Avoidance
	The Gap;Cobbara;	Moderate	None	Avoidance
	The Gap;Cobbora;	Moderate	None	Avoidance
	YBCR-OS2 with PAD	Moderate	None	Avoidance
Aboriginal rock-shelter with potential archaeological deposit	Shelter 01	Low	None	Avoidance
	Shelter 02	Moderate	None	Fence and avoid
	Shelter 03	Moderate	None	Avoidance
	Shelter 04	Moderate	None	Avoidance
	Shelter 05	Moderate	None	Avoidance
	Shelter 08	Moderate	None	Avoidance

Table 17.3 Impacts to Aboriginal sites

Site type	Site name	Scientific significance	Project impact	Management
Scarred tree	BBS; Dubbo LALC; Road Reserve 2	Moderate	None	Avoidance
	DR-ST2	Moderate	None	Avoidance
	DR-ST3	Moderate	None	Avoidance
	DR-ST4	Moderate	None	Avoidance
	DR-ST5	Moderate	None	Avoidance
	TRE 01	Low	None	Avoidance
	TRE 02	Low	None	Avoidance
	TRE 03	Low	None	Avoidance
	TRE 04	Moderate	None	Avoidance
	TRE 05	Moderate	None	Avoidance
	TRE 06	Low	None	Avoidance
	TRE 07	Moderate	None	Fence and avoid
	TRE 08	Moderate	None	Fence and avoid
	TRE 09	Moderate	None	Fence and avoid
	TRE 10	Low	None	Fence and avoid
	TRE 11	Low	None	Fence and avoid
	TRE 12	Low	None	Fence and avoid
	TRE 13	Moderate	None	Avoidance
	TRE 14	Low	None	Fence and avoid
	TRE 15	Low	None	Fence and avoid
	TRE 16	Low	None	Fence and avoid
	TRE 17	Low	None	Fence and avoid
	TRE 18	Moderate	None	Avoidance
	TRE 19	Moderate	None	Avoidance
	TRE 20	Low	None	Avoidance

17.2 Response to submissions

17.2.1 Impacts to Aboriginal cultural heritage sites

Submissions

I-8, I-15, I-18, I-21, I-22, I-29, I-37, I-49, I-58, I-61, I-64, I-65, I-78, I-82, I-85, I-86, I-90, I-94, I-95, I-96, I-105, I-111, I- 116, NA-8, G-2, G-5, G-9, G-10, G-13, G-15, G-22

Issues

A number of submissions raise the impact to Aboriginal heritage sites as a result of the Project, particularly the direct loss of 79 sites and impact to 47 km^2 of land. One submission noted the impacts to Aboriginal objects both on and below the surface. One individual regards the impact as an "unacceptable loss of significant Aboriginal cultural heritage sites".

Responses

Minimisation of impacts to Aboriginal heritage was an integral part of the mine design process. Because Aboriginal sites are distributed so extensively across much of the landscape, it was not possible to totally avoid impacts in mine design. The impact on Aboriginal heritage was acknowledged in the report and an extensive mitigation program of collection, salvage excavation and analysis was designed in consultation with Aboriginal stakeholders. The archaeological survey for the Project also identified a greater number of Aboriginal sites that will be protected from impact. The Project does also offer some benefit to the understanding of Aboriginal heritage through the extensive record of protected Aboriginal sites and analysis of collected materials that will be conserved for future generations.

17.2.2 Survey effort

Submissions

G-9, G-10, I-15

Issues

Some submissions consider the survey for the Aboriginal heritage assessment to be inadequate for a number of reasons. Submissions comment the size of the area surveyed was too small. One submission considers that a significant gap was left in the survey coverage due to the abandonment of survey in the steep rocky slopes areas.

Additional comments about the survey included:

- that the archaeologists were “not interested in rock shelters”; and
- that only those artefacts deemed by the archaeologists to be scientifically significant were recorded in the EA.

Responses

The Aboriginal cultural heritage assessment used several methods of investigation and the Registered Aboriginal Parties (RAPs) were consulted about them before the fieldwork. The report details the extensive areas of rocky slope surveyed and the record of nine rock-shelters that were identified, only one of which had positive evidence of Aboriginal occupation in the form of visible Aboriginal objects. The survey covered many kilometres of rocky slope that provided enough confirmation of the paucity, or lack, of positive evidence for Aboriginal occupation of rock-shelters. Survey in steep rocky slopes was enough to confirm this pattern once it became clear that occupation focused closer to the reliable water sources — Sandy and Laheys creeks.

The statements that the archaeologists were not interested in rock-shelters are inaccurate. Particular effort was made to assess previously identified rock-shelters and new Aboriginal rock-shelters in survey areas. The statement that there was only a select recording of artefacts by the archaeologist is not only inaccurate, but this assertion has also been responded to in two previous extensive letters from the archaeologist to the submitter. The previous letters responding to the inaccurate assertion stated that the archaeologist marked all Aboriginal artefacts in site records on GPS. Not only were the individual artefact locations recorded by the archaeologist used to identify Aboriginal sites in the EA, but more extensive areas of archaeological sensitivity were identified encompassing all sites and extending for thousands of hectares beyond the sites.

The archaeologist went beyond identifying the location of Aboriginal artefacts recorded in the field, to identify extensive areas where artefacts will occur in the topsoil but are not visible on the surface. Test excavations confirmed that these 'archaeologically sensitive areas' are accurate representations of the extent of subsurface material. The fact that the archaeologist went to such effort to identify broad distributions of artefacts is inconsistent with the assertion of the submitter that only select artefacts were recorded (Appendix I 'Test excavation report').

17.2.3 Adequacy of management and impact mitigation measures

Submissions

NA-2, G-9, I-15

Issues

Several submissions raise the measures put forward for the mitigation and management of Aboriginal sites, including:

- "The complex of sites along Sandy Creek and Laheys Creek should be formally protected by a gazetted Conservation Area, and independently managed by representatives of the relevant local Aboriginal communities";
- that all Aboriginal artefacts in the Project area be placed in a keeping place which can be easily accessible and managed by the Aboriginal community until they can be returned to country;
- that a more cautious timeframe of 12 months to salvage Aboriginal sites be instigated instead of the proposed three months;
- that archaeological excavation "should only be undertaken to provide data essential for decisions on the conservation of the place or to obtain important evidence about to be lost or made inaccessible"; and
- that mitigation impacts to Aboriginal cultural heritage "will be appropriate to the size of the Cobbora mine project and the number of sites that will be harmed."

The OEH commented that areas designated for protection should be effectively protected and to put in place measures to this effect, including stabilising eroding creeks associated with protected Aboriginal sites and managing sensitive areas that are exposed to traffic.

Two submissions comment on the necessity of input from the Aboriginal stakeholders for managing Aboriginal sites and to establish a keeping place for Aboriginal objects.

Responses

An Aboriginal Heritage Management Plan (AHMP) is being prepared in consultation with the Aboriginal stakeholders for the protection of Aboriginal sites and archaeologically sensitive areas not identified for impact by the Project. The Project will be legally obliged to comply with the Project Approval conditions, which will include protection of the those sites along Sandy and Laheys creeks where mine impacts are not planned. Management of the mine lands will continue to be the responsibility of the mine as the land owner. CHC has committed to ongoing consultation with the Aboriginal stakeholders as described in the EA. The AHMP will include formal mechanisms for regular meetings with Aboriginal stakeholder representatives and Aboriginal stakeholder participation in Aboriginal site salvage and management.

The EA commits to a Keeping Place managed in consultation with Aboriginal stakeholders.

Mitigation and salvage work is being designed that will consider the significance of Aboriginal heritage. To this effect, all Aboriginal sites impacted by the Project will be collected, all road crossings across archaeologically sensitive areas will be monitored and exposed Aboriginal objects collected, and the number of large-scale archaeological excavations increased from two to at least four to recover large assemblage from different landscape contexts.

The excavations will take more than the three months initially proposed in the EA but are unlikely to take 12 months. It is not appropriate to design a salvage program to fit a predetermined timeframe. Rather, it is appropriate to consider the various contexts be salvaged to fit a research design addressing how the archaeological evidence in different parts of the landscape informs us about past Aboriginal settlement pattern and strategic landscape use by Aboriginal people. That is, the archaeological excavations will be undertaken as the submissions note, "...to obtain important evidence about to be lost or made inaccessible".

17.2.4 Research

Submission

NA-2, NA-13

Issues

The OEH comments that the research of salvaged sites should be "appropriate to the scale of impact to ACH values across the mine easement" and extend "beyond the collection and salvage of objects for storage and be of a particular high standard and contributes towards Aboriginal landscape knowledge for intergenerational opportunities and future planning decisions". To ensure this outcome, the OEH suggests that examining Aboriginal cultural heritage values in areas of biodiversity offsets should be made a condition of consent.

The DP&I requests further consultation with the OEH about research and Aboriginal cultural heritage landscape values.

Responses

The salvage of Aboriginal sites will be managed in accordance with an AHMP, which will include a research design setting out information gathering objectives beyond the simple description of savaged objects. Research questions will guide the design of archaeological excavations, detailed attribute recording of artefacts and forms of analyses and interpretations. Original food plants on the mine will be researched with use, wear and residue analyses of certain salvaged objects.

Additional archaeological surveys will be conducted within those biodiversity offset areas that have comparable landscape features to archaeologically sensitive parts of the PAA. A particular focus will be given to areas within the Talbragar River valley.

17.2.5 Consultation with the Aboriginal community

Submissions

NA-8, G-9, G-10

Issues

Three submissions comment that the level of consultation with the Aboriginal community has been inadequate, in particular that the views of the Aboriginal community are not being considered during survey and during the assessment of site significance.

Response

Consultation has been in accordance with and exceeding the requirements of the *Aboriginal Cultural Heritage Consultation Guidelines for Proponents 2010* (DECCW 2010) as detailed extensively in the EA. A commitment has been made in the EA to continue consultation with the Aboriginal stakeholders and the AHMP will include mechanisms to ensure this takes place.

The statement that the archaeologists did not listen to views from the Aboriginal community on culture and survey techniques is not accurate. When issues of this nature arose during the Project, the Project archaeologist took time out to personally visit the party raising the issue to listen to their concern. Meetings were held with all Aboriginal stakeholders with explicit questions put to those present about issues around the Aboriginal cultural heritage assessment. The invitation was for stakeholders to talk with the archaeologist in any manner of the stakeholders' choosing, including an offer for the Project archaeologist to visit and discuss issues one-on-one outside of the group meeting environment.

17.2.6 Aboriginal community employment and training

Submissions

NA-2, NA-6, G-9

Issues

Three submissions note the necessity of Aboriginal participation in the Project workforce for both the short and longer term. An example of this is the OEH's response, which "strongly advocates that adequate resource and opportunity is provided for the RAPS for skilling in ACH research post approval as part of the AHMP process".

Responses

CHC is planning to employ suitably qualified local Aboriginal people, including two Aboriginal Project officers during the post-fieldwork analysis phase of the proposed Aboriginal site salvage program. The Aboriginal Project Officers will be trained in the recognition and recording of Aboriginal stone artefacts and the production of short descriptive reports relevant to specific sub-projects within the overall CCP salvage project. They will be supervised by the Project archaeologist and provided with guidance in methods of recognising and recording Aboriginal objects. The provision for Aboriginal participation will be included in the Project's AHMP.

17.2.7 Monitoring

Submission

G-9

Issue

This submission suggests that Aboriginal representatives should monitor drill sites as Aboriginal objects may come to the surface during drilling.

Response

Monitoring is a process whereby areas of archaeological sensitivity are inspected during the course of development work to detect Aboriginal objects. Drilling outside of archaeologically sensitive areas does not warrant monitoring, nor is it permitted without an Aboriginal Heritage Impact Permit (AHIP) where the activity occurs outside the Project Application Area subject to Part 3A assessment. The definition of archaeologically sensitive areas was developed during the EA in consultation with Aboriginal stakeholders.

Wherever drilling work was planned within the PAA, an archaeological test excavation was done under Part 3A provisions for test excavation without an AHIP for the purposes of the assessment. Aboriginal representatives were involved in those test excavations. The first phase of fieldwork to excavate the proposed geotechnical test pit and borehole locations within archaeologically sensitive areas was conducted 9–25 July 2012 by three archaeologists and several Aboriginal representatives, numbering up to nine on certain days. A successive excavation program was conducted 2–18 October 2012 in association with additional geotechnical testing within archaeologically sensitive areas. A total of 36 test pits and 10 borehole test squares were excavated over both phases of fieldwork. The results of the test excavations are reported in the Cobbora Coal Project Test excavation report (Appendix I).

17.2.8 Adequacy of assessment

Submission

G-9

Issues

This submission comments on the adequacy of the Aboriginal heritage assessment, particularly that "the consultation and survey process has lacked diligence and respect for the input of key Aboriginal stakeholders". The assessment is also considered to be inadequate in identifying Aboriginal cultural heritage within the Project area.

Responses

As noted in 17.2.5, consultation has been in accordance with and exceeding the requirements of the *Aboriginal Cultural Heritage Consultation Guidelines for Proponents 2010* (DECCW 2010) as detailed extensively in the EA. A commitment was made in the EA to continue consultation with the Aboriginal stakeholders and the AHMP will include mechanisms to ensure this takes place. Representatives of all registered Aboriginal stakeholders were invited to participate in all fieldwork. Several meetings were held with an explicit aim of listening to Aboriginal views. All meetings began with an acknowledgement of traditional owners and Aboriginal peoples' country and invitation for a welcome to country from an Aboriginal traditional owner present at the meeting.

The statement that the survey lacked diligence and respect does not accord with what took place. All Aboriginal fieldwork participants were provided the means to flag Aboriginal objects during the survey and all flagged Aboriginal objects were inspected and recorded by the Project archaeologist. The draft assessment methodologies were distributed to Aboriginal stakeholders before the assessment in accordance with consultation guidelines. During the survey, the Project archaeologist invited any participant to talk with him if an issue was identified.

17.2.9 Cumulative impact

Submissions

NA-2, G-10, I-15

Issues

A number of submissions raise concerns with the lack of information on the cumulative impact of the Project on Aboriginal heritage within the wider region, including: "The cumulative impact of ongoing destruction of Aboriginal cultural heritage in the region through large open cut mining development has not been adequately addressed in the EA."

Responses

No open cut mining is present for an area of 40 km around the mine. Open cut mining in the Ulan area over 40 km to the east occurs in a different western slopes and dividing range country to the Cobbora Coal Project.

The problems of cumulative impact assessment for Aboriginal heritage have recently been discussed in *Australian Archaeology* (vol. 73, 2011). These problems include defining what constitutes a region, the absence of knowledge about how many Aboriginal sites are in the region and the lack of definition about an acceptable threshold of impact. In the absence of guidelines or identified reference studies in submissions, the following approach is offered whereby:

- a regional reference area is defined including the Cobbora and Ulan mining areas of interest;
- the number of Aboriginal sites in that area is estimated based on known data from the Cobbora study; and
- the estimated proportion of sites within the reference area impacted by mining calculated.

The exact number of sites impacted in the Ulan area is not known, but estimated based on calculated site density for the reference area.

A regional reference area is defined here as a 45 x 45 km^2 area, including the Cobbora PAA on the western edge and the Ulan area of mining on the eastern edge. This is an area of 202,500 ha comprising a rural landscape.

The estimated number of Aboriginal sites in the reference area is 1,688 based on the site density of one site per 120 ha identified within the Cobbora Coal Project (the Project) PAA.

A total of 78 Aboriginal sites will be impacted in the Project area, which is 4.6% of sites within the reference area.

Based on air photos, an area of 1,200 ha has been disturbed at Ulan indicating that about 10 sites have been lost. Assuming this is an underrepresentation by a factor of 10, it is assumed for the purpose of this analysis that 100 sites may have been lost (although this is not confirmed).

If 10 sites have been lost at the Ulan mining area, this represents 0.6% of sites lost within the reference area. The cumulative impact of the Project and Ulan area mining is estimated at 5.2% of sites in the reference area.

Alternatively if 100 sites have been lost at the Ulan mining area, this represents 6% of sites lost within the reference area. The cumulative impact of the Project and Ulan area mining is estimated at 10.6% of sites in the reference area.

Should the reference area be drawn more broadly, this percentage cumulative impact would diminish.

17.3 Conclusion

The effect of Project design changes over previously identified impacts on Aboriginal heritage impacts is negligible; however, changes to management commitments have been made in response to submissions. The scale of Aboriginal heritage salvage has been increased with the addition of specific areas of archaeological monitoring where road crossings over archaeologically sensitive creek areas are proposed, and two additional areas of archaeological excavations are proposed. These changes address a concern for a substantial salvage program that matches the scale of impact. Although there is no basis of comparison for what constitutes adequate salvage, an effort has been made to include excavation of different types of sites in different landform contexts to address a research design that explores the character of the archaeology and how it informs Aboriginal settlement patterning in the region. This will be elaborated in the AHMP, which sets out details on site protection, site salvage, ongoing consultation and procedures necessary for the care of Aboriginal heritage.

The AHMP will be developed with Registered Aboriginal Parties and the OEH to record the existing agreed management measures and expanded salvage program.

No further management measures or commitments are warranted in light of the Project changes or submissions.