

WAMBO COAL PTY LTD

**SOUTH BATES (WAMBO SEAM)
UNDERGROUND MINE MODIFICATION
RESPONSE TO SUBMISSIONS**

(Modification 15 to DA 305-7-2003)

PROJECT NO. WAM-09-15

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DATE: SEPTEMBER 2015

RESPONSE TO SUBMISSIONS

Wambo Coal Pty Limited (WCPL), a subsidiary of Peabody Energy Australia Pty Limited, prepared the *South Bates (Wambo Seam) Underground Mine Modification Environmental Assessment* (the EA) (WCPL, 2015) to support an application to modify the Wambo Coal Mine Development Consent (DA 305-7-2003 MOD 15) under section 75W of the New South Wales (NSW) *Environmental Planning and Assessment Act, 1979*.

The EA was placed on public exhibition by the NSW Department of Planning and Environment (DP&E) from 5 August 2015 to 24 August 2015.

Table 1 provides a reconciliation of the submissions received from State and Local Government agencies. Table 2 provides a reconciliation of public submissions.

WCPL has prepared a response to the issues raised in the submissions. Responses to submissions made by Government agencies and the public are provided in Tables 3 and 4, respectively.

Table 1
Reconciliation of Final Agency Submissions

Agency	Date
NSW Environment Protection Authority (EPA)	13 August 2015
Division of Resources and Energy (DRE) within the NSW Department of Industry, Skills and Regional Development	August 2015
NSW Office of Environment and Heritage (OEH)	24 August 2015
NSW Department of Primary Industries – Water (DPI Water)	25 August 2015 ¹

¹ Draft submission only.

Table 2
Reconciliation of Public Submissions

Name	Date	Nature of Submission
Mr R Fenwick	28 August 2015	Objection

Table 3
Response to Agency Submissions

Comment	Response
NSW Environment Protection Authority (EPA)	
The EPA had no specific recommended conditions of approval for this Modification.	Noted.
Division of Resources and Energy (DRE) within the NSW Department of Industry, Skills and Regional Development	
The DRE noted that WCPL would be required to submit a revised Mining Operations Plan to include the Modification if approved.	Noted. WCPL would prepare necessary documentation required under the modified Development Consent (if granted) and relevant mining titles.
The DRE advised that there are no feasibility issues affecting the proposed mine layout from health and safety risks due to subsidence.	Noted.
The DRE recommended amendments to the rehabilitation objectives in the Development Consent.	Condition 94, Schedule 4 of the existing Development Consent (DA 305-7-2003) provides rehabilitation objectives for the Wambo Coal Mine. The rehabilitation programme at the Wambo Coal Mine is described in the approved Flora and Fauna Management Plan (WCPL, 2014). As described in Section 3.9 of the EA, the Modification would not require a material change to the rehabilitation programme presented in the Environmental Impact Statement (EIS) (WCPL, 2003). It is noted that the DRE has recommended the following rehabilitation objective: <i>The land capability classification for the relevant nominated agricultural pursuit for each domain is established and self-sustaining within 5 years of extraction.</i> WCPL does not consider that the above recommended objective should be included as an enforceable rehabilitation objective in the Development Consent, as rehabilitation performance can be affected by a number of natural events (e.g. drought or bushfire) that are beyond the control of WCPL. The wording of the above recommended objective does not recognise or provide scope for longer timeframes as a result of events that are beyond the control of WCPL.
The DRE recommended a condition in relation to progressive rehabilitation.	The DRE has recommended the following condition: <i>The proponent shall carry out all surface disturbing activities in a manner that, as far is reasonably practicable, minimises potential for dust emissions and shall carry out rehabilitation of disturbed areas progressively, as soon as reasonably practicable, to the satisfaction of the Secretary of Department Industry, Skills and Regional Development.</i> Condition 94B, Schedule 4 of the existing Development Consent (DA 305-7-2003) relates to progressive rehabilitation.

Comment	Response
	Under Condition 5B, Schedule 4 of the existing Development Consent (DA 305-7-2003), WCPL is required to implement best management practice to minimise off-site odour, fume and dust emissions from the Wambo Coal Mine to the satisfaction of the Secretary of the DP&E. Under Environment Protection Licence (EPL) 529, WCPL is also required to minimise the emission of dust from the premises to the satisfaction of the EPA. WCPL considers that the additional condition proposed by the DRE is unnecessary duplication of the above existing regulatory requirements.
The DRE recommended a condition in relation to a Rehabilitation Plan.	The DRE has recommended the following condition: 1. <i>The Proponent must prepare and implement a Rehabilitation Plan to the satisfaction of the Secretary of Department of Industry, Skills and Regional Development.</i> 2. <i>Rehabilitation Plan must:</i> - a <i>be submitted and approved by the Secretary of the Department of Industry, Skills and Regional Development prior to carrying out any surface disturbing activities of the development, unless otherwise agreed by the Secretary...</i> Condition 94C, Schedule 4 of the existing Development Consent (DA 305-7-2003) relates to the preparation of a Rehabilitation Management Plan and requires the plan to be prepared to the satisfaction of the DRE. As described in Section 3.9 of the EA, the Modification would not require a material change to the rehabilitation programme presented in the EIS (WCPL, 2003). WCPL considers that the additional condition proposed by the DRE is unnecessary duplication of the above existing regulatory requirements.
Office of Environment and Heritage (OEH)	
Aboriginal Cultural Heritage	
The OEH recommended that all nine of the sites located within the Modification area are clearly marked and fenced to ensure that their locations are visible and thus will be protected from unintended harm.	WCPL's mining leases cover an area of over 7,000 hectares. The Wambo Coal Mine includes: • areas approved for open cut extraction; • areas approved for underground mining with surface disturbance associated with activities such as exploration gas drainage, dewatering, monitoring and subsidence remediation; and • areas that form part of the Remnant Woodland Enhancement Program (RWEPP) areas. The Modification would not require any surface disturbance for surface infrastructure, such as ventilation or gas drainage (i.e. direct disturbance would be limited to potential impacts associated with vehicle movements, subsidence monitoring and subsidence remediation works, if required).

Comment	Response
	Notwithstanding, WCPL's on-site procedures involve the maintenance of a database of site locations and procedures to locate any surface disturbance activities to avoid impacts to Aboriginal sites where practicable (including Surface Disturbance Permits and Ground Disturbance Permits). In the unlikely event that a site is to be impacted by surface activities, the site would be managed and salvaged in accordance with the approved Salvage and Management Programme. WCPL considers that fencing of all sites is impractical and creates unnecessary ground disturbance given the approved Aboriginal heritage procedures that are already in place at the site.
The OEH recommended a standard condition that WCPL consult with and involve all the registered local Aboriginal parties for the project in the ongoing management of Aboriginal cultural heritage values. OEH also recommended that evidence of such consultation be collated and provided to the consent authority on request.	Noted. This is consistent with WCPL's on-site procedures. Consultation with Aboriginal stakeholders is conducted in accordance with the approved Salvage and Management Programme (Navin Officer Heritage Consultants, 2005) that formed part of the original Aboriginal Heritage Impact Permit (AHIP) application. In accordance with the approved Salvage and Management Programme, representatives from the local Aboriginal stakeholder community groups are invited to observe and, where appropriate, participate in the salvage works (e.g. recording, collection, storage and replacement of artefacts). WCPL would provide records of relevant consultation with the Aboriginal community upon request. In addition to the above, it is noted that a copy of the final Cultural Heritage Impact Assessment prepared by RPS Australia East Pty Ltd (2015) (incorporating all comments received from the Registered Aboriginal Parties [RAPs]) has been provided to all RAPs for their records. A copy of the final Cultural Heritage Impact Assessment is included in Appendix A of this document.
The OEH recommended a standard condition that the existing Aboriginal Cultural Heritage Management Plan should be updated in consultation with the RAPs for managing all cultural heritage values associated with the project area, prior to the commencement of ground disturbance works.	Noted. This is consistent with WCPL's on-site procedures. An Extraction Plan would be developed for the Modification and would include a Heritage Management Plan, which would detail proposed management measures for Aboriginal cultural heritage sites within the Modification area. The management of the sites described in the Heritage Management Plan would be consistent with those recommendations presented in the Cultural Heritage Impact Assessment (Appendix A) and the approved Salvage and Management Programme. All RAPs would be consulted during preparation of the Heritage Management Plan.
The OEH recommended a standard condition that in the event that ground disturbance identifies a new Aboriginal object/s within the project area, all works must halt in the immediate area. A suitably qualified archaeologist must be engaged and consultation must be undertaken with the local Aboriginal community.	Noted. This is consistent with WCPL's on-site procedures. Consistent with WCPL's on-site procedures, if any previously unrecorded Aboriginal sites are identified during the course of the Modification, surface works in that area would cease until the site has been recorded (Section 4.6.2 of the EA).

Comment	Response
	Any additional Aboriginal heritage sites (not yet recorded) would be managed in a consistent manner to the existing site types. If a new site type (i.e. a site type not previously recorded at the Wambo Coal Mine or a site type not considered in the development of the approved Salvage and Management Programme) is recorded, appropriate management would be developed by an appropriately qualified archaeologist in consultation with the RAPs.
The OEH recommended a standard condition that if human remains are located in the event that surface disturbance occurs, all works must halt in the immediate area to prevent further impacts to the remains and the NSW Police are to be contacted immediately.	Noted. This is consistent with WCPL's on-site procedures (see Section 4.6.2 of the EA).
The OEH recommended a standard condition that all Aboriginal site impacted by the project must have an Aboriginal Site Impact Recording form completed and submitted to OEH's Aboriginal Heritage Information Management System (AHIMS) Register within three months of being impacted.	Noted. This is consistent with WCPL's on-site procedures.
The OEH recommended a standard condition that an Aboriginal Cultural Education Program is developed for the induction of all personnel and contractors involved in the construction activities on site, and that records are kept of which staff/contractors were inducted and when. The OEH also recommended the Aboriginal Cultural Education Program is developed and implemented in collaboration with the RAPs.	Noted. This is consistent with WCPL's on-site procedures. WCPL's on-site induction includes education on Aboriginal cultural heritage management in accordance with the approved Salvage and Management Programme (Navin Officer Heritage Consultants, 2005).
The OEH recommended the 9 registered Aboriginal sites in the Modification area remain <i>in situ</i> unless any mine impacts are unavoidable.	Noted. This is consistent with WCPL's on-site procedures and consistent with the recommendations presented in the Cultural Heritage Impact Assessment for the Modification. As a component of the Cultural Heritage Impact Assessment, RPS Australia East Pty Ltd recommended consideration of engineering solutions to mitigate impacts to two grinding groove site (Sites 296 and 387) prior to the proposed extraction of Longwalls 14 to 16. WCPL subsequently engaged SCT Operations (2015) to undertake a site inspection and provide advice on possible engineering solutions for these two sites.

Comment	Response
	SCT Operations concluded that Site 296 is free from the risk of stress induced cracking as the groove is hosted on a boulder, as follows: <i>Being hosted on a boulder, this feature is free from the risk of stress induced cracking. Modification of the site by subsidence is anticipated as full extraction beneath this site is anticipated for the approved and proposed panels ...as no stresses will be induced on the boulder, cracking is not considered possible, thus the mitigation strategy is not warranted.</i> Further, in regard to Site 387 SCT Operations (2015) concluded that engineering solutions were not warranted based on access limitations and the presence of existing intersecting joint sets and undercutting of the host sandstone bed as follows: <i>Because Site 387 is pre-textured by intersecting joint sets and the undercutting of the host sandstone bed by Stony Creek, the application of slots to relieve subsidence induced cracking is not considered necessary.</i> It is therefore proposed to leave Sites 296 and 387 <i>in situ</i> during mining, with regular monitoring.
The OEH recommended that Aboriginal sites within the existing AHIP No. 2222 area continue to be managed in accordance with the terms and conditions of that AHIP, and that such works must be undertaken in consultation with the RAPs.	Noted. This is consistent with WCPL's on-site procedures.
Flooding and Floodplain Assessment	
OEH does not recommend any additional conditions of consent in relation to flood, other than any proposed by the NSW Office of Water or the Commonwealth Department of the Environment.	Noted.
Impact on World Heritage Areas and National Park Estate	
The OEH has raised concerns regarding potential subsidence impacts on the Wollemi National Park and quotes the EA as stating that the Modification is likely to cause subsidence, cliff cracking and rock falls within the park boundaries. On this basis, the OEH has recommended that that the Modification is referred to the Commonwealth Department of the Environment for assessment under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act, 1999</i> (EPBC Act).	The extent of the proposed Longwalls 14 to 16 to the south-west is set back or in line with approved Longwalls 11 to 13 to avoid impact on the Wollemi National Park Escarpment. Further, the longwalls are designed to maintain Wambo Coal's commitment to maintain an offset equivalent to a 26.5° angle of draw from the base of the Wollemi National Park escarpment, which effectively mitigates subsidence risk to the escarpment. On this basis, and as described in the EA, it is considered unlikely that the Wollemi National Park or the associated Wollemi National Park escarpment would be adversely impacted by the Modification. Section 4.2.2 of the EA relevantly provides: <i>The Wollemi National Park is located to the south-west and to the west of the proposed Longwalls 14 to 16. Wollemi National Park is predicted to experience very low levels of vertical subsidence, low level far-field horizontal movements and no significant conventional tilts, curvatures or strains (Appendix A).</i>

Comment	Response
	Therefore, MSEC (Appendix A) concludes it is unlikely Wollemi National Park would be adversely impacted by the proposed Longwalls 14 to 16. It is noted that the EA describes that rock falls and cliff instability may occur along some cliffs located downslope of the Wollemi National Park escarpment and along a spur above the longwalls, however these cliffs are located on WCPL-owned land, outside the boundary of Wollemi National Park. Table 14A of the current Development Consent (DA 305-7-2003) includes a subsidence impact performance measure for the Wollemi National Park of “Negligible subsidence impacts. Negligible environmental consequences.” WCPL would comply with this condition for the Modification. As concluded in Section 5.2 of the EA, WCPL considers that referral of the Modification to the Commonwealth Department of the Environment for assessment under the EPBC Act is not warranted.
Threatened Biodiversity Assessment	
The OEH queried the exclusion of the Endangered Population <i>Leionema lamprophyllum</i> from consideration in the Flora Assessment.	The species <i>Leionema lamprophyllum</i> and the associated Endangered Population located approximately 30 kilometres (km) south-east of the Modification area were not considered in the Flora Assessment prepared for the Modification as they were not identified during the 20 km by 20 km database searches undertaken for the Modification (FloraSearch, 2015). Further, the Modification area is located outside the extent of the known distribution for the species (OEH, 2015) and the species was not identified during the recent surveys undertaken for the Modification (FloraSearch, 2015). Notwithstanding, even if the species was to be present within the Modification it is anticipated that there would be no significant impacts. The area the subject of the Modification is already approved for subsidence associated with the approved Whybrow Seam panels under both the Development Consent and EPBC Approval 2003/1138. The Modification would not require any surface disturbance for surface infrastructure, such as ventilation or gas drainage (i.e. direct disturbance would be limited to potential impacts associated with vehicle movements, subsidence monitoring and subsidence remediation works, if required).
The OEH has raised concerns over the exclusion of threatened fauna records from the Fauna Assessment, in particular records for the Brush-tailed Rock-wallaby.	As noted in the Fauna Assessment (Eco Logical Australia, 2015), the Brush-tailed Rock-wallaby (<i>Petrogale penicillata</i>) had been previously recorded during ongoing monitoring at the Wambo Coal Mine. However, this record is not located above the proposed Longwalls 14 to 16 and the Brush-tailed Rock-wallaby was not recorded during the recent surveys within the Modification area. Notwithstanding, based on the available sheltering and foraging habitat within the Modification area, including exposed sandstone outcrops and caves/cliff lines it was considered that there was potential for the species to occur within the Modification area (Eco Logical, 2015).

Comment	Response
	Regardless of whether the species was recorded or not within the Modification area, there would be no change to the impact assessment prepared for the Modification. Eco Logical Australia (2015) concluded that the potential impacts of subsidence would be minimal and that the Modification is not expected to result in the loss of vegetation cover or community structure. As such, fauna habitat within the Modification area would not be directly impacted by the occurrence of subsidence and the Modification is unlikely to result in any significant impacts to the Brush-tailed Rock-wallaby. Cumulative impacts associated with the Modification are also expected to be negligible.
The OEH has commented that threatened species records from the Annual Environmental Management Reports and surveys for the Environmental Assessments are required to be submitted to the NSW Wildlife Atlas as per consent conditions attached to Scientific Licences issued under 132C of the NSW <i>National Parks and Wildlife Act, 1974</i>.	WCPL understands that the requirements for the submission of records to the NSW Wildlife Atlas as per consent conditions attached to Scientific Licences are requirements for the specialist consultants rather than WCPL. WCPL anticipates that Eco Logical Australia and Flora Search will submit all threatened flora and fauna records associated with the Modification to the NSW Wildlife Atlas consistent with consent conditions attached to Scientific Licences issued under 132C of the NSW <i>National Parks and Wildlife Act, 1974</i>.
The OEH has requested further details of the <i>Grevillea parviflora</i> subsp. <i>parviflora</i> records and confirmation of whether the records have been submitted to the NSW National Herbarium for confirmation. The OEH note that <i>G. parviflora</i> is very similar to <i>G. humilis</i>.	As noted by the OEH, the threatened specimens <i>Grevillea parviflora</i> subsp. <i>parviflora</i> and the non-threatened species <i>G. humilis</i> are very similar and can be easily misidentified. Flowers and/or buds are needed to be certain of the species identification. The plants recorded not flowering at the time of identification and hence the Flora Assessment conservatively assessed the plants as being <i>G. parviflora</i>, which is listed as vulnerable under the NSW Threatened Species Conservation Act, 1995 (TSC Act) and the EPBC Act. The <i>G. parviflora</i> was recorded during targeted searches undertaken for the Modification, however these records are located outside of the extent of subsidence associated with the Modification. A group of six plants were identified within the Narrow-leaved Stringybark – Large-fruited Grey Gum shrubby open forest vegetation community, on an upper ridge slope in the Wollemi National Park (FloraSearch, 2015). It is considered by FloraSearch (2015) that there is no potential habitat for this species within the Modification area. The specimens identified have been collected by FloraSearch (2015) and will be provided to the Royal Botanic Gardens and Domain Trust for classification and confirmation prior to submission to the NSW Wildlife Atlas.

Comment	Response
The OEH has requested further details on the record of the Greenhood Orchid (<i>Pterostylis</i> sp.) and justification for why the specimens identified were not considered to be the Illawarra Greenhood (<i>Pterostylis gibbosa</i>).	As noted by the OEH, the <i>Pterostylis</i> sp. was not flowering at the time of the surveys undertaken for the Modification, and hence the records were not identifiable to a species level. Notwithstanding, it is considered highly unlikely that the <i>Pterostylis</i> sp. records are <i>P. gibbosa</i>. FloraSearch (2015) considers that the habitat identified along Stony Creek is unsuitable for <i>P. gibbosa</i> which favours grassy open Forest Red Gum / Ironbark forests, while the habitat identified along Stony Creek in which the orchids were located is Sandstone Gully Dry Rainforest. Further, FloraSearch (2015) also considers that the leaves on the identified specimens were not consistent with the 'rufa' group of <i>Pterostylis</i> sp. to which <i>P. gibbosa</i> belongs. The 'rufa' group has densely clustered, sessile, elongate leaves in the basal rosette, whereas the plants in Stony Creek had loosely clustered, stalked, broadly oval leaves.
The OEH raised concerns regarding potential damage to the <i>Central Hunter Grey Box – Ironbark Woodland in the New South Wales north Coast and Sydney Basin Bioregions Endangered Ecological Community</i> (EEC) in the Modification area, particularly in relation to potential impacts associated with ponding or surface cracking.	Dr Colin Bower of FloraSearch (2015) concluded that the Modification is unlikely to significantly impact on the <i>Central Hunter Grey Box – Ironbark Woodland in the New South Wales north Coast and Sydney Basin Bioregions EEC</i>, based on his extensive experience and observations of the condition of the same vegetation community in areas affected by subsidence from the North Wambo Underground Mine. As described in the Flora Assessment (2015) it is considered unlikely that vegetation within the Modification area (including the <i>Central Hunter Grey Box – Ironbark Woodland in the New South Wales north Coast and Sydney Basin Bioregions EEC</i>) would be adversely affected by mine subsidence. This conclusion is supported by inspection of previously undermined areas to the east of the Modification area, which showed that despite evidence of surface cracking of the soil, the condition of the vegetation on the undermined area was not noticeably different from that on adjacent similar unmined areas and showed no signs of dieback (FloraSearch, 2015). Further, it is noted that ponding as a result of subsidence is expected to be restricted to the North Wambo Creek Diversion where no natural vegetation community is present. As such, ponding would not be expected to adversely impact any natural vegetation, including the <i>Central Hunter Grey Box – Ironbark Woodland in the New South Wales north Coast and Sydney Basin Bioregions EEC</i> (FloraSearch, 2015).
The OEH has commented that more detail is provided regarding the survey effort described in the Fauna Assessment, including a consideration of previous survey works and their validity due the age of the work and the methods used.	A significant amount of detailed ecological assessments have previously been performed in the Modification area and surrounds to date (Eco Logical Australia, 2015). Considering this, the field survey undertaken for the Modification targeted potential threatened fauna and their habitats (e.g. tree hollows, rocky outcrops/cliffines and large woody debris), listed under the TSC Act and EPBC Act that may be susceptible to potential subsidence impacts associated with the Modification (Eco Logical Australia, 2015).

Comment	Response
	As described in the Fauna Assessment, the field assessment undertaken included fauna habitat mapping and targeted surveys for diurnal birds and microbats, as well as opportunistic recordings of all fauna species identified. Fauna habitat features within the Modification area were identified, with surveys targeting rocks and outcrops that may provide potential microbat cave roosting habitat (Eco Logical Australia, 2015). The previous survey efforts and results were used to inform the location of surveys undertaken for the Modification flora surveys. On the basis that the area the subject of the Modification is already approved for subsidence associated with the approved Whybrow Seam panels under both the Development Consent and EPBC Approval 2003/1138, the survey effort undertaken was/is considered sufficient. Notwithstanding, Eco Logical Australia (2015) concluded that the Modification is unlikely to result in any significant impacts to threatened fauna, and cumulative impacts associated with the Modification are expected to be negligible.
The OEH queried why the <i>Diuris pedunculata</i> and the <i>Pterostylis gibbosa</i> were not fully considered in the assessment	The species <i>Diuris pedunculata</i> was not considered in the Flora Assessment prepared for the Modification as this species was not identified during the 20 km by 20 km database searches undertaken for the Modification (FloraSearch, 2015). The closest record of this species is located in Kurri Kurri and is extremely old. Regardless, <i>D. pedunculata</i> is unlikely to occur within the Modification based on a lack of suitable habitat. This species prefers damp, almost swampy soils of fairly high fertility and accordingly it occurs in moist grassy woodlands. Such habitat is absent from the Modification area, which has very dry soil conditions. Please refer to the response above regarding the consideration of <i>Pterostylis gibbosa</i> in the Flora Assessment.
The OEH strongly supported the establishment of the Hunter Coalfield Flora and Fauna Advisory Committee.	Noted.
The OEH recommended that any vegetation clearing that impacts on threatened species, population or communities, or their habitats, for this development outside any other existing consents must be offset in accordance with OEH offsetting policy. That is the 'NSW Biodiversity Offsets Policy for Major Projects'.	The Modification would not require any surface disturbance for surface infrastructure, such as ventilation or gas drainage (i.e. direct disturbance would be limited to potential impacts associated with vehicle movements, subsidence monitoring and subsidence remediation works, if required). Therefore, no additional offset is required.

Comment	Response
The OEH recommended that any monitoring programme to measure the impacts of mine impacts includes control sites in which data on vegetation composition and structure, soil surface features, and other variables as appropriate are collected in the same vegetation communities and in the same position in the landscape as the areas to be undermined; that data collection in all sites commences more than 12 months prior to undermining of any sites; and that appropriate statistical analysis of the data is conducted.	In accordance with the approved Flora and Fauna Management Plan (WCPL, 2014), WCPL undertakes annual monitoring of RWEF areas overlying WCPL underground mining areas. The monitoring aims to identify any isolated surface disturbances, assess the level of disturbance to native vegetation and the condition of the vegetation (e.g. health and vigour of species and communities), and assess any changes in drainage lines or watercourses (that may be attributable to subsidence). The current monitoring programme in RWEF areas includes 34 permanent flora quadrats, which are monitored annually for flora species diversity (including total number of flora species, number and percent of native flora species and number and percent of introduced flora species) and flora species abundance (modified Braun-Blanquet 1-6). Flora monitoring is also undertaken at three locations above the proposed Longwalls 14 to 16, which monitors vegetation condition, including floristic and habitat complexity. Results from the flora and fauna monitoring programme are reported in WCPL's Annual Environmental Management Reports. Flora management and monitoring at the Wambo Coal Mine would continue to be conducted in accordance with the approved Flora and Fauna Management Plan (WCPL, 2014) or its revisions. WCPL proposes that no changes be made to the existing approved monitoring system at this time.
The OEH recommended that the proponent provide an appropriate biodiversity offset to offset any impacts to the Brush-tailed Rock-wallaby, threatened cave-roosting microbats (Large-eared Pied Bat, Eastern Bentwing-bat, Little Bentwing-bat, Little Pied Bat, Southern Myotis and Eastern Cave Bat) and the Illawarra Greenhood Orchid.	Eco Logical Australia (2015) concluded that the potential impacts of subsidence would be minimal and that the Modification is not expected to result in the loss of vegetation cover or community structure. The area the subject of the Modification is already approved for subsidence associated with the approved Whybrow Seam panels under both the Development Consent and EPBC Approval 2003/1138. Eco Logical Australia (2015) concluded that the Modification is unlikely to result in any significant impacts to threatened fauna (including the Brush-tailed Rock-wallaby and threatened cave-roosting microbats), and cumulative impacts associated with the Modification are expected to be negligible. As described above, the Illawarra Greenhood Orchid is considered highly unlikely to occur within the Modification area (refer to justification provided above). On this basis it is considered that the potential for harm to this species to occur as a result of the Modification is unlikely. Notwithstanding, it is noted that Table 14A of the current Development Consent (DA 305-7-2003) includes a subsidence impact performance measure for threatened species, populations or communities of "Minor cracking and ponding of the land surface or other impact. Negligible environmental consequences." Wambo Coal will continue compliance with this condition.

Comment	Response
	In accordance with Condition 22, Schedule 4 Development Consent (DA 305-7-2003), in the event that this condition is exceeded and it is not feasible to remediate or remediation measures have failed, WCPL would provide a suitable offset to compensate for the impact or environmental consequence to the satisfaction of the Secretary of the DP&E.
NSW Department of Primary Industries – Water (DPI Water)	
The DPI Water recommended that Groundwater and Surface Water Monitoring Plans should be updated to incorporate monitoring for potential impacts resulting from the Modification.	Noted.
The DPI Water requested that the Extraction Plan for Longwalls 14-16 be prepared in consultation with DPI Water.	As described in Section 4.5.2 of the EA, an Extraction Plan would be prepared for the proposed Longwalls 14 to 16 prior to the commencement of secondary workings in accordance with Condition 22C, Schedule 4 of the Development Consent (DA 305-7-2003). The Extraction Plan would include a Water Management Plan which would be prepared in consultation with the EPA and DPI Water.
The DPI Water stated support for the construction of additional monitoring bores to complement the existing monitoring program and note that additional take of water from both alluvial and hard rock aquifers as a result of the modification is covered by existing entitlements.	Noted.

Table 4
Response to Public Submissions

Name	Comment	Response
Mr R Fenwick	Raised concerns regarding the methodology undertaken in preparation of the Subsidence Assessment.	The Subsidence Assessment for the Modification was prepared by Mine Subsidence Engineering Consultants (MSEC) (2015), a highly skilled and experienced subsidence engineering firm. As described in Section 4.2.2 and Appendix A of the EA, predictions of the systematic subsidence parameters for the Modification were made using the Incremental Profile Method, which consists of subsidence prediction curves based on monitoring data from mines extracting coal from the Southern, Newcastle, Hunter and Western Coalfields of NSW. The Incremental Profile Method has a tendency to give conservative predictions of the systematic subsidence parameters where the proposed mining geometry and geology are within the range of the empirical database (i.e. the method is based on upper bound curves and is generally conservative). A more detailed description of the subsidence prediction methodologies, including a description of previous subsidence monitoring at Wambo and other collieries in the Hunter Coalfield and how the data has been used for the Modification subsidence predictions is provided in the Subsidence Assessment (MSEC, 2015).
Mr R Fenwick	Raised concerns about the potential impacts of the Modification on drainages, drainage lines and surface streams.	Advisian (2015) prepared a Surface Water Assessment for the Modification. The assessment concluded that subsidence associated with the Modification is not predicted to have any noticeable effect on surface levels and grades along Stony Creek. The predicted impact of ponding on minor drainage lines as a result of the proposed Longwalls 14 to 16 is very minor and is not expected to require any additional remedial work (Advisian, 2015). The Surface Water Assessment further concludes that the Modification would result in minor additional stress along Stony Creek and other minor drainage lines, and the Modification is unlikely to warrant additional remediation work (Advisian, 2015). Advisian (2015) concluded that any additional cracking at isolated rock bars as a result of the Modification would be managed using techniques developed and used elsewhere at Wambo.

Name	Comment	Response
		Trigger Action Response Plans (TARPs) would be developed as part of the Extraction Plan process to outline appropriate triggers and remedial actions in the unlikely event that remediation is required. As noted in Section 4.5.2 of the EA, the Extraction Plan would include the following measures: • Longitudinal geomorphological surveys conducted along the North Wambo Creek Diversion in the Modification area, including prior to commencement of secondary extraction; immediately following subsidence; and following the completion of any restoration or remediation works. • Creek channel monitoring and implementation of remedial measures to fill or seal channel bed cracking. • Review of measures implemented for the approved Longwalls 11 to 13 to protect areas from scour, with augmentation of localised stabilisation works (e.g. rock armouring and/or large woody debris) or vegetation establishment if required. • Licensing under the <i>NSW Water Management Act, 2000</i> to mitigate against any residual impacts.
Mr R Fenwick	Raised concerns regarding the assumed extent of aquifers and the conclusions that there would be negligible impacts outside the Modification area.	The Groundwater Assessment for the Modification was prepared by HydroSimulations (2015), a highly skilled and experienced groundwater modeling company. The Groundwater Assessment concluded that the Modification is within the 'Level 1' minimal impact considerations outlined in the <i>NSW Aquifer Interference Policy</i> (NSW Government, 2012) for highly productive groundwater and that the Modification would cause no discernible additional drawdown in any alluvial aquifer compared with the approved mining layout. Notwithstanding, as described in Section 4.4.2, monitoring within the alluvial aquifers would continue to be conducted in accordance with an approved Groundwater Monitoring Program and the Surface Water Monitoring Program. In regard to the Permian aquifers, WCPL would continue to implement an approved Surface and Groundwater Response Plan in the event a complaint is received in relation to loss of groundwater supply.
Mr R Fenwick	Raised concerns regarding submissions made by government agencies including the EPA, the OEH and the DRE.	Noted. Responses to each of the submissions made by the EPA, the OEH and the DRE are provided in Table 3.

Name	Comment	Response
Mr R Fenwick	Raised concerns regarding compliance with relevant consent conditions and the performance of regulators.	The Wambo Coal Mine is operated in accordance with the existing Development Consent (DA 305-7-2003) and the relevant conditions outlined in EPL 529, Coal Lease (CL) 365, CL374, CL397, Consolidated Coal Lease 743, Mining Lease (ML) 1402, ML1572, ML1594, Authorisation 444 and Exploration Licence 7211. Compliance with the conditions outlined in the above licences and approvals is reported in the Wambo Coal Mine Annual Reviews, EPL 529 Annual Return and relevant environmental audit reports. Further, and as described in the EA, the modified mine layout has been designed to be consistent with the subsidence impact performance measures in the existing Development Consent (DA 305-7-2003). WCPL would continue to implement existing environmental management and monitoring measures to minimise the potential impacts of Wambo incorporating the Modification on existing environmental values. The regulation of WCPL requirements at the Wambo Coal Mine is not a matter for WCPL to comment on.

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APPENDIX A

SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION CULTURAL HERITAGE IMPACT ASSESSMENT



Cultural Heritage Impact Assessment

South Bates (Wambo Seam) Underground Mine Modification

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Appendices

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Appendix 3	National Native Title Tribunal Search
Appendix 4	Aboriginal Consultation – Information Session PowerPoint Presentation
Appendix 5	AHIMS Search
Appendix 6	Site Cards
Appendix 7	Control & Care Permit 3130 & Consent 2222 (As Amended)
Appendix 8	Extract of Aboriginal Assessment Section from the Subsidence Assessment (MSEC, 2015)

Executive Summary

RPS Australia East Pty Ltd (RPS) has been commissioned by Wambo Coal Pty Ltd (WCPL) to prepare a Cultural Heritage Impact Assessment (CHIA) which addresses Aboriginal and non-Indigenous heritage for a proposed modification 15 (MOD 15) to WCPL's existing Development Consent (DA 305-7-2003). An overarching Environmental Assessment (EA) will be prepared to support an application to modify the Wambo Development Consent (DA 305-7-2003) to allow for an extension to the approved South Bates (Whybrow Seam) Underground Mine (SBUM), referred to as the South Bates (Wambo Seam) Underground Mine Modification (the Modification). This CHIA will form part of the overarching EA.

This CHIA has been prepared in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011 2015), the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water (DECCW 2010a)), the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b), the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005) and the *Burra Charter* (Australia ICOMOS 2013).

Mining under Development Consent DA 305-7-2003 commenced in 2004 and currently both open cut and underground operations are conducted. The approved run-of-mine (ROM) coal production rate is 14.7 million tonnes per annum and product coal is transported from Wambo by rail. The Modification would produce additional ROM coal, however there would be no change to the currently approved ROM coal production rate or the approved mine life.

The Modification would include the addition of three additional longwall panels (Longwalls 14 to 16) in the Wambo Seam below the three approved longwall panels in the Whybrow Seam (Longwalls 11 to 13) at the approved SBUM. Access to the additional longwall panels would be via the existing approved Bates South open pit. The Modification would use the existing and approved Wambo Coal Mine (Wambo) and SBUM surface infrastructure. The Modification is wholly within the Wambo mining tenements, namely Consolidated Coal Lease 397 and parts of Mining Lease 1594 and Mining Lease 1462.

The Modification Project Area is situated to the south-west of the existing open cut mine and extends across Stony Creek valley, adjoining the Wollemi National Park. The Modification Project Area encompasses the slopes on either side of the incised v-shaped Stony Creek valley, underlies the Wambo Ridge and the north-east facing scree slopes, foot slopes and toe slopes descending towards the broad u-shaped North Wambo Creek Valley to the north-east. The former alignment of North Wambo Creek lay approximately 720 metres to the north-east of the Modification Project Area and was important for providing a supply of drinkable water to the Aboriginal people camping in the area. North Wambo Creek has since been diverted. The North Wambo Creek Diversion was constructed due to related mining works and part of the bank of the North Wambo Creek Diversion now lies within the north-eastern part of the Modification Project Area.

The CHIA considers the environmental and archaeological context of the Modification Project Area, results from a search of the Aboriginal Heritage Information Management System (AHIMS) database and Heritage databases, the development of a predictive model, comments from the Registered Aboriginal Parties (RAPs) regarding cultural heritage significance and the results of the archaeological and cultural survey of the Modification Project Area.

The key components of this report are:

- To identify what Aboriginal sites are at risk from subsidence effects;
- To identify what Aboriginal sites are at risk from any surface works;
- To provide an impact assessment based on those findings;
- To provide recommendations to manage the predicted impacts;
- To outline mitigation and management measures; and
- To identify if historic heritage sites or objects are at risk and based on the findings provide an historic heritage impact assessment.

An application was made by WCPL for a S87/S90 consent under the *National Parks and Wildlife Act* (1974) for all known and unknown Aboriginal objects within the Application Area for the Wambo Development Project (Wambo Coal Pty Limited 2005). The potential scope for avoidance of some of the Aboriginal sites within the approved open cut and underground mining areas was limited; therefore an Aboriginal Heritage Impact Permit (Consent 2222) was granted by the DEC on the 20 June 2005 for surface sites and for excavation of areas identified in within the Consent 2222 boundary (**Appendix 2**). All sites within the approved Application Area are managed under Consent 2222. The existing Consent 2222 covers the vast majority of the Modification Project Area.

The desktop study undertaken for the Modification revealed that a number of archaeological field surveys and assessments had previously been undertaken in the Modification Project Area and surrounds, including, but not limited to, the following:

- Aboriginal Heritage Assessment for the Wambo Development Project: Environmental Impact Statement (White 2003).
- Montrose East Underground Mine Modification: Aboriginal Cultural Heritage Impact Assessment (RPS 2011).
- Montrose Water Storage Modification: Aboriginal Due Diligence Assessment (RPS 2012a).
- Cultural Heritage Impact Assessment: North Wambo Underground Mine Modification (RPS 2012b).
- Cultural Heritage Impact Assessment: North Wambo Underground Mine Modification Longwall 10A (RPS 2014).

These studies identified a number of Aboriginal sites in both the local and regional area. Aboriginal cultural heritage field surveys and salvage works were undertaken by RPS in participation with the RAPs at Wambo between 2009 and 2015. These surveys included an inspection of those Aboriginal sites previously identified by White (2003), and recording and/or salvage of existing or new Aboriginal sites, several of which were within the current Modification Project Area. The majority of Aboriginal sites in this area were located on elevated areas above the floodplain associated with major watercourses including North Wambo Creek and Stony Creek (a major tributary of Wambo Creek that is also known as South Wambo Creek) and their tributaries.

A search of the AHIMS database indicated that there were nine previously recorded Aboriginal sites located within the Modification Project Area. Seven of these Aboriginal sites (including five artefact scatters and two isolated finds) had subsequently been salvaged and only two of the Aboriginal sites remained extant including an isolated find (Wambo Site 297 [AHIMS #37-5-0591]) and a grinding groove site (Wambo Site 296 [AHIMS #37-5-0590]).

Surface collection of five of the Aboriginal sites within the Modification Project Area had been undertaken in advance of the North Wambo Creek Diversion and upgrade to the main mine access road which were situated in what is now the north-eastern part of the current Modification Project Area. Surface collection of two previously recorded Aboriginal sites within the Modification Project Area had also been undertaken in the ridgeline area to avoid potential impacts from previously approved works.

An archaeological investigation of the Modification Project Area using archaeological pedestrian survey methods was undertaken over a period of three days in May and June 2015 by RPS archaeologists with representatives from the RAPs. During the fieldwork a total of seven previously unrecorded Aboriginal sites were identified within the Modification Project Area, thereby totalling nine extant Aboriginal sites in the Modification Project Area. These include: three artefact scatters (Wambo Site 382, Wambo Site 383 and Wambo Site 385); two isolated finds (Wambo Site 297 [AHIMS #37-5-0591] and Wambo Site 384); and four grinding groove sites (Wambo Site 296 [AHIMS #37-5-0590], Wambo Site 386, Wambo Site 387 and Wambo Site 388). No Aboriginal Places have been registered in the Modification Project Area.

Three of the grinding groove sites (Wambo Sites 386, 387 and 388) were recorded in the sandstone bedrock along Stony Creek and the other grinding groove site (Wambo Site 296) was recorded on the surface of a sandstone boulder on an ephemeral first order creek line, midslope in the north-western part of the Modification Project Area. There was an isolated find (Wambo Site 297) recorded upstream from the grinding groove boulder. The other isolated find (Wambo Site 384) and two of the artefact scatters (Wambo Site 382 and Wambo Site 383) were recorded in the gently sloping lower slopes in the northern part of the Modification Project Area. Another artefact scatter (Wambo Site 385) was recorded on the upper bank of a first order ephemeral creek line midslope in the central part of the Modification Project Area.

RAPs were given the opportunity to inspect areas affected by subsidence in order to understand the effects potential subsidence might have on the integrity of Aboriginal sites in the current Modification Project Area. It was noted by the RAPs present that artefacts could be subject to vertical downward movements. Artefact sites could also be disturbed if they were beside or on access roads.

The RAPs have indicated during the consultation process that all Aboriginal sites and objects are of cultural significance and that the grinding groove sites are of high cultural significance. The RAPs present during the field surveys recommended that artefact scatters and isolated finds not be moved unless required. They considered that if any potential impacts to specific Aboriginal sites were likely, then those Aboriginal sites should be salvaged under an appropriate permit. The RAPs also suggested that periodic monitoring of the Aboriginal sites be maintained by WCPL to mitigate against potential site damage and loss of artefacts from subsidence impacts.

The artefact sites in the Modification Project Area are located in highly disturbed contexts and were ranked as having low archaeological/scientific significance at a local and a regional level. The grinding groove sites were assessed to be of moderate archaeological/scientific significance at a local level but of low archaeological/scientific significance at a regional level.

Mitigation and management measures have been devised for the Aboriginal sites and features which may be impacted by the Modification. For surface artefacts (i.e. artefact scatters and isolated finds), it is best practice for Aboriginal objects to remain *in situ* if they are not likely to suffer harm. If Aboriginal objects located outside the current Consent 2222 boundary are likely to suffer harm as a result of the Modification, then a variation to Consent 2222 would be required. If salvage of Aboriginal objects under Consent 2222 (as varied) is undertaken, the Aboriginal objects should be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the relevant RAPs.

Grinding groove sites are often found on the surface of rock platforms and are usually difficult to salvage. The three newly identified grinding groove sites were on flat lying, jointed sandstone bedrock in Stony Creek and the previously recorded grinding groove was on the surface of a boulder in an ephemeral tributary of North Wambo Creek.

Options for the grinding groove sites should include archival recording and ongoing monitoring by WCPL to manage potential site damage from subsidence effects. With regard to Wambo Site 387, engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of each of the grinding groove sites.

A variation to the existing Consent 2222 is required to incorporate the extent of subsidence associated with the Modification. This would include any Aboriginal sites located within the Modification Project Area but that are outside the existing Consent 2222 boundary (Wambo Site 296 [grinding groove site] and Wambo Site 297 [isolated find]). The newly identified Aboriginal sites (Wambo Sites 382, 383, 385 [artefact scatters], Wambo Site 384 [isolated find] and Wambo Sites 386, 387 and 388 [grinding grooves]) are located within the existing Consent 2222 boundary.

The newly identified sites within the Modification Project Area (i.e. Wambo Sites 382, 383, 384, 385, 386, 387 and 388) were not located during previous surveys and therefore have not been assessed in previous subsidence assessments reports, including the assessment for the approved SBUM (G.E. Holt & Associates 2003). Although these Aboriginal sites are located within an area approved for subsidence impacts associated with the approved SBUM and are also captured within the boundary of Consent 2222, they have been the subject of a detailed subsidence impact assessment (MSEC 2015) as part of the Modification. Subsidence predictions for each of the Aboriginal sites have been assessed and presented in MSEC (2015).

MSEC (2015:62) considered that it is *unlikely* that the artefact sites (artefact scatters and isolated finds) in the Modification Project Area, namely Wambo Sites 297, 382, 383, 384 and 385, would suffer adverse impacts from mining induced tilts. Although mining induced curvatures and strains could result in surface cracking in the vicinity of the artefact scatters and isolated finds (which are located directly above the proposed longwalls), MSEC (2015: 62) considered that it was *unlikely* that the stone artefacts themselves would be adversely impacted by the surface cracking. Artefact sites that may be affected by subsidence should be salvaged in accordance with Consent 2222 (as varied). MSEC identified that artefact sites may be adversely impacted from ground surface disturbances resulting from use of access tracks into the Modification Project Area and remediation works in the area (MSEC 2015: 62).

There are four grinding groove sites in the Modification Project Area, including three sites situated on bedrock of Stony Creek (Wambo Sites 386, 387 and 388) and one site previously recorded on a sandstone boulder in the bed of an ephemeral tributary of North Wambo Creek (Wambo Site 296).

MSEC (2015: 63) concluded that it is likely that fracturing and buckling of the bedrock would develop in the vicinity of Wambo Sites 296 and 387 due to mining in the Whybrow and Wambo Seams. However, given that Wambo Site 296 is located next to an unrestrained edge of a boulder, MSEC concluded that the potential for adverse impacts to the grinding groove site is *unlikely*. While the potential for adverse impacts on Wambo Site 387 has been assessed by MSEC (2015) as possible (i.e. greater than 25 %), the potential for impact at this site due to the mining of the proposed the Modification is considered to be similar to the potential for impact due to the mining of the approved SBUM (i.e. the Modification does not change the risk category of the potential impacts).

MSEC (2015) concluded that the potential for impacts on Wambo Sites 386 and 388 would only slightly increase as a result of the Modification, and therefore the potential for adverse impacts would still be considered unlikely for Wambo Site 388 and very unlikely for Wambo Site 386 (i.e. the Modification does not change the risk category of the potential impacts) (MSEC 2015:61-63 & D01).

The risk of potential adverse impacts to Aboriginal sites within the Modification Project Area were predicted by MSEC to be unlikely (i.e. low chance of potential adverse impacts) with respect to the artefact sites (i.e. artefact scatters and isolated finds), and very unlikely to possible (i.e. > 25%) (i.e. low to high chance of potential adverse impacts) with respect to the grinding groove sites (MSEC 2015: 61-63 & Table D.01). Notwithstanding, MSEC (2015) has concluded that the Modification does not change the risk category of the potential impacts associated with the approved SBUM. The potential impacts on Aboriginal sites as a result of the Modification are described in **Table ES-1**.

Table ES-1 Summary of Potential Impacts on Aboriginal Heritage as a Result of the Modification

Wambo Site Number	Site Type/ Description	Count	MSEC Assessed Impact	Chance of Impact to Aboriginal Object	Change in Risk Category as a Result of the Modification
296	Grinding Groove on boulder	Single groove	Unlikely	Low	No change
297	Isolated Find	Single artefact	Unlikely	Low	No change
382	Artefact Scatter	Three artefacts	Unlikely	Low	No change
383	Artefact Scatter	Two artefacts	Unlikely	Low	No change
384	Isolated Find	Single artefact	Unlikely	Low	No change
385	Artefact Scatter	Ten artefacts	Unlikely	Low	No change
386	Grinding Groove	Single groove	Very Unlikely	Low	No change
387	Grinding Groove	Three grooves	Possible >25%	Moderate - High	No change
388	Grinding Groove	Two grooves	Unlikely	Low	No change

The following management recommendations have been formulated with consideration of the significance of Aboriginal heritage, as well as potential impacts, and have been prepared in accordance with the relevant legislation:

Recommendation 1

It is recommended that the surface artefacts remain *in situ* unless impact to the Aboriginal sites is unavoidable. If there is a risk of harm to surface artefacts then they should be managed in accordance with Recommendation 3.

Recommendation 2

Prior to commencement of longwall mining associated with the Modification, the grinding groove sites should be subject to archival recording in accordance with OEH standards.

WCPL should undertake subsidence monitoring to ensure that subsidence effects are consistent with the predicted impacts. If a risk of harm is identified to grinding grooves, prior to, or during subsidence monitoring then engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer.

Recommendation 3

It is recommended that the existing Consent 2222 be varied to include the extent of the Modification Project Area. Aboriginal objects within the existing Consent 2222 boundary are to be managed in accordance with the terms and conditions of Consent 2222. Aboriginal objects collected are to be transferred to the temporary keeping place under the existing Care and Control Permit (#3130).

Recommendation 4

The location of any Aboriginal sites in the Modification Project Area should be included in the WCPL environmental management framework for the Modification Project Area so that all relevant personnel are aware of the management requirements.

Recommendation 5

If any previously unrecorded Aboriginal sites are identified during the course of surface works in the Modification Project Area, the area should be demarcated and surface works suspended until the site has been adequately recorded by a qualified archaeologist. Any newly identified Aboriginal sites should be managed in accordance with management measures for similar sites or artefact types previously identified within the Modification Project Area or across the wider Wambo area contained in Consent 2222 and in consultation with the RAPs.

Recommendation 6

In the event that skeletal remains are uncovered, work must cease immediately in that area and WCPL will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If the remains are determined to be Aboriginal, WCPL should then contact the NSW Office of Environment and Heritage (OEH) Enviroline 131 555 and the RAPs in order to determine an action plan for the management of the skeletal remains prior to works re-commencing.

Recommendation 7

All relevant WCPL staff should be made aware of their statutory obligations for heritage under *National Parks and Wildlife Act 1974* and the *Heritage Act 1977*, which may be implemented as a heritage induction. If during the course of surface site works significant European cultural heritage material is uncovered, surface work should cease in that area immediately. OEH should be notified and works only recommenced when an appropriate and approved management strategy has been instigated.

Terms and Abbreviations

Abbreviation	Description
Aboriginal site	Refers to Aboriginal sites under the <i>National Parks and Wildlife Act 1974</i> that contain Aboriginal objects
ACHCRs	<i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> (DECCW, 2010a) were released by the DECCW on 12 April, 2010. These consultation requirements are triggered for assessments under Part 3A for the EP&A Act, or if an AHIP is required under Parts 4 or 5 of the EP&A Act, or if archaeological investigations are required in accordance with the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW, 2010b)
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
BP	Before Present (as in years before present)
cal. years BP	Calibrated years Before Present, indicates a radiocarbon date has been calibrated using the dendrochronology curves, making the date more accurate than an uncalibrated date
CHIA	Cultural Heritage Impact Assessment
Consent 2222	s87 and s90 consent held by WCPL to carry out the destruction of an Aboriginal object/place and permit to collect and excavate for the purpose of salvage
DGPS	Differential Global Positioning System
DECCW	NSW Department of Environment, Climate Change and Water
EA	Environmental Assessment
EIS	Environmental Impact Statement
EoI	Expression of Interest
km	Kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
MOL	Mine Owned Land
NSW	New South Wales
SBUM	South Bates (Whybrow Seam) Underground Mine
OEH	NSW Office of Environment and Heritage
PAD	Potential Archaeological Deposit
RAPs	Registered Aboriginal Parties
ROM	run-of-mine
RPS	RPS Australia East Pty Ltd
Wambo	Wambo Coal Mine
WCPL	Wambo Coal Pty Limited

1.0 Introduction

The Wambo Coal Mine (Wambo) is owned and operated by Wambo Coal Pty Limited (WCPL), a subsidiary of Peabody Energy Australia Pty Limited. Wambo is located approximately 15 kilometres (km) west of the township of Singleton, near the village of Warkworth in the Hunter Valley, New South Wales (NSW) (**Figure 1**). Wambo is located within the Singleton Local Government Area (LGA). Wambo adjoins grazing land to the south, other coal mining operations to the east and north, grazing land to the north-west and the Wollemi National Park to the west and south-west.

RPS Australia East Pty Ltd (RPS) has been commissioned by WCPL to prepare a Cultural Heritage Impact Assessment (CHIA) which addresses Aboriginal and non-Indigenous heritage for a proposed modification 15 (MOD 15) to WCPL's existing Development Consent (DA 305-7-2003). An overarching Environmental Assessment (EA) will be prepared to support an application to modify the Wambo Development Consent (DA 305-7-2003) to allow for an extension to the approved South Bates (Whybrow Seam) Underground Mine (SBUM), referred to as the South Bates (Wambo Seam) Underground Mine Modification (**Figure 2**) herein referred to as the Modification. This CHIA will form part of the overarching EA.

The Modification would include the addition of three longwall panels (Longwalls 14 to 16) in the Wambo Seam below the three approved longwall panels in the Whybrow Seam (Longwalls 11 to 13) at the approved SBUM (**Figure 2**). Access to the additional longwall panels would be via the existing approved Bates South open pit (**Figure 3**). The Modification would use the existing and approved Wambo and SBUM surface infrastructure. The Modification is wholly within the Wambo mining tenements, namely Consolidated Coal Lease 397 (CL397) and parts of Mining Lease 1594 (ML1594) and Mining Lease 1462 (ML1462). The Modification affects parts of Lot 2 DP709722, Lot 83 DP548749 and Lot C DP33149 in the Parish of Lemington; part of Lot 113 DP753817 in the Parish of Wambo and part of Lot 79 DP753821 in the Parish of Whybrow and the County of Hunter (**Figure 4**). The Modification would produce additional run-of-mine (ROM) coal however there would be no change to the currently approved ROM coal production rate of 14.7 million tonnes per annum or the approved mine life.

The objectives of this CHIA are to provide an assessment of the Modification for Aboriginal heritage values, to identify whether Aboriginal sites, objects or places would be impacted by the proposed works, and to provide appropriate mitigation and management recommendations, where required. This CHIA also identifies whether non-Indigenous heritage sites, objects or places would be impacted by the proposed works, and to provide appropriate mitigation and management recommendations, as required.

This CHIA has considered the environmental and archaeological context of the Modification Project Area (Section 1.1), developed a predictive model and reported on the results of an archaeological survey of the Modification Project Area. Management recommendations have been formulated with consideration of the archaeological and cultural significance of Aboriginal heritage and potential impacts of the works, and have been prepared in accordance with the relevant legislation (Section 1.3).

1.1 The Modification Project Area

The Modification Project Area is situated to the south-west of the existing open cut mine and extends across Stony Creek valley. The Wollemi National Park lies to the south-west of the Modification Project Area. The Modification Project Area encompasses the slopes on either side of the incised v-shaped Stony Creek valley, underlies the Wambo Ridge with the north-east facing screed slopes, foot slopes and toe slopes of this steeply sloping area descending to the north-east to the former alignment of North Wambo Creek and what is now the south-western bank of the North Wambo Creek Diversion (**Figure 3**). As described in Section 1, the Modification area is located wholly within the existing Wambo mining tenements.

The Modification Project Area is characterised by steeply incised v-shaped first and second order ephemeral tributaries of North Wambo Creek in the majority of the Modification Project Area creek lines. These creek lines flow from the south-west to the north-east. The creek lines originate from Wambo Ridge which is a narrow ridgeline flanked by steep slopes on either side. To the south-west of the Wambo Ridge is a v-shaped valley cut by Stony Creek which is a fourth order intermittent flowing creek line. Stony Creek is lined with sandstone boulders along the creek banks, with jointed sandstone bedrock visible along the bed of the creek and coarse grained alluvial sands, pebbles and cobbles deposited along the creek line. Stony Creek flows in a south-easterly direction into Wambo Creek (South Wambo Creek) which is a major tributary of Wollombi Brook to the east.

The Modification Project Area includes a portion of Stony Creek and a number of ephemeral first order and second order tributaries of North Wambo Creek.

1.2 Background

RPS has been commissioned by WCPL to undertake an Aboriginal and non-Indigenous CHIA as part of an application to modify Development Consent (DA 305-7-2003) for Wambo, under Section 75W of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The Modification will include the addition of three longwall panels (Longwalls 14 to 16) in the Wambo Seam below the three existing approved longwall panels in the Whybrow Seam (Longwalls 11 to 13) in the approved SBUM. The Modification would use the existing and approved Wambo and SBUM surface infrastructure. Longwall extraction of the proposed Longwalls 14 to 16 is scheduled to commence in September 2017, and ROM coal would be extracted over a period of approximately 14 months.

The Modification Project Area contains highly modified landforms as a result of previous farming practices in the lower to midslopes including, but not limited to, land clearing, the installation of fencing and dams, livestock grazing, formed tracks and dirt access roads.

The Modification generally has a north-east facing aspect and covers an area of approximately 230 hectares (ha). The Modification Project Area is generally flat lying or gently sloping in the lower and midslope areas, and is characterised by steeply sloping rugged terrain in the upper slopes and along the Wambo Ridge and the Stony Creek valley.

This CHIA has been prepared to meet the requirements for the application by WCPL for a Section 75W modification to an existing Part 4 approval. The report considers the environmental and archaeological context of the Modification Project Area, results from a search of the AHIMS database, the development of a predictive model, comments from the Aboriginal community regarding cultural heritage significance and the results of the archaeological and cultural survey of the Modification Project Area.

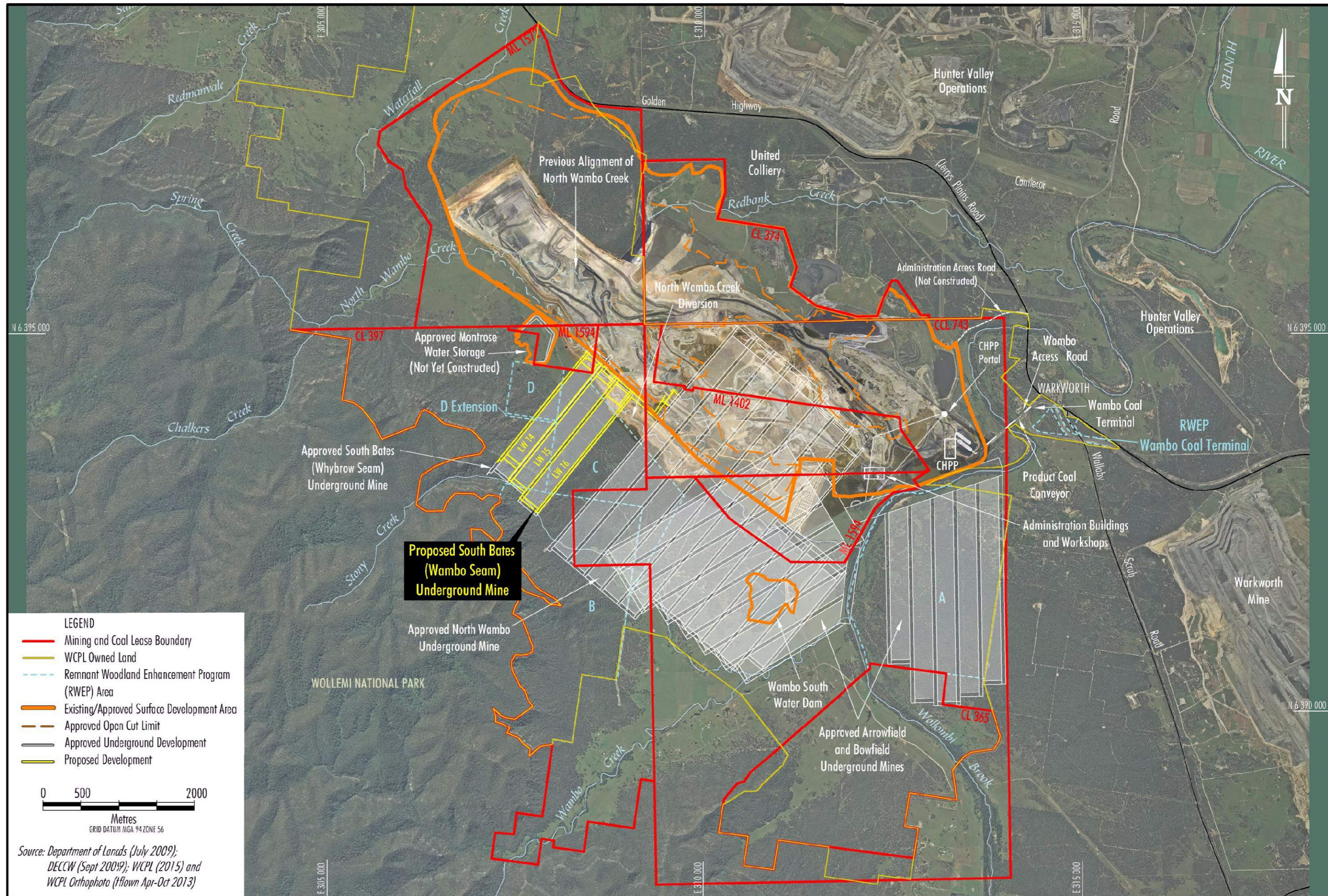
This Aboriginal and non-Indigenous CHIA report has been prepared in accordance with the following guidelines:

- *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW] 2010a) (the ACHCRs);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b);
- *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005);
- *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (NSW Office of Environment and Heritage [OEH] (OEH 2011); and
- *Burra Charter* (Australia International Council on Monuments and Sites [ICOMOS] 2013).

Surface collection had been undertaken in advance of the North Wambo Creek Diversion and upgrade to the main mine access road at five previously recorded sites listed in the Aboriginal Heritage Information Management System (AHIMS) database, which were situated in what is now the north-eastern part of the current Modification Project Area. These were Wambo Site 146 (AHIMS #37-5-0394) Wambo Site 147 (AHIMS #37-5-0395), Wambo Site 148 (AHIMS #37-5-0397), Wambo Site 149 (AHIMS #37-5-0399) and Wambo Site 150 (AHIMS #37-5-0401). The ground surface in this area had been modified by the North Wambo Creek Diversion and access road upgrade and was therefore not resurveyed during the current survey for the Modification Project Area.

Surface collection of two previously recorded Aboriginal sites within the Modification Project Area had also been undertaken in the ridgeline area to avoid potential impacts from previously approved works. The two sites salvaged within the current Modification Project Area were Wambo Site 89 (AHIMS #37-5-0476) a moderate sized artefact scatter (18 artefacts) and Wambo Site 90 (AHIMS #37-5-0477) an isolated find. Only the isolated find was still present and was salvaged.

RPS



TITLE: FIGURE 2: WAMBO COAL MINE APPROVED UNDERGROUND DEVELOPMENT LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 30/07/2015
PURPOSE: HERITAGE

VERSION (PLAN BY): D A4 (GG-NW)
PATH: J:\JOBS\Wambo\Wambo Mapping Database
Archaeology\126088-1

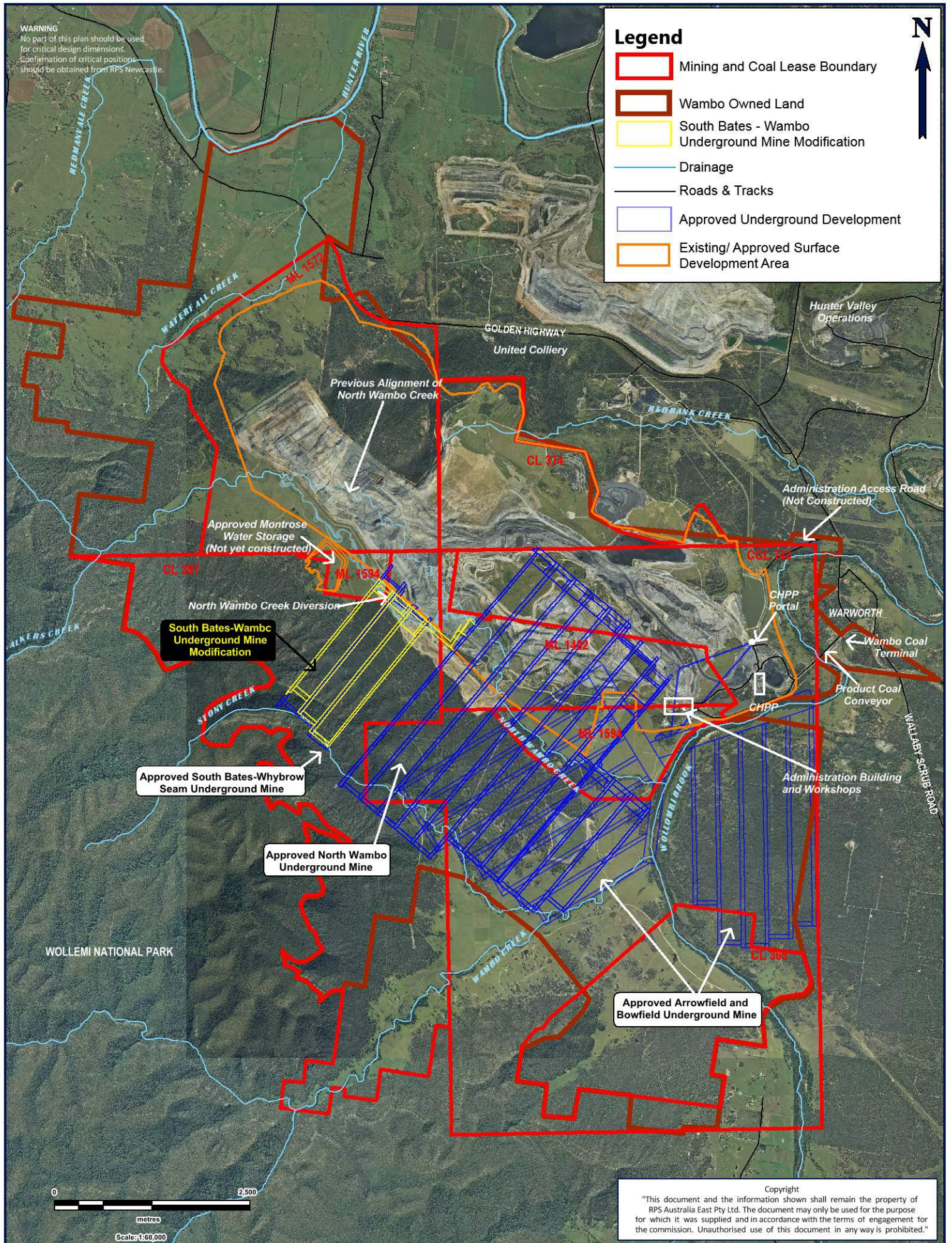
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CLIENT: WAMBO COAL PTY LTD
JOB REF: 126088

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TITLE: FIGURE 3: PROPOSED SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

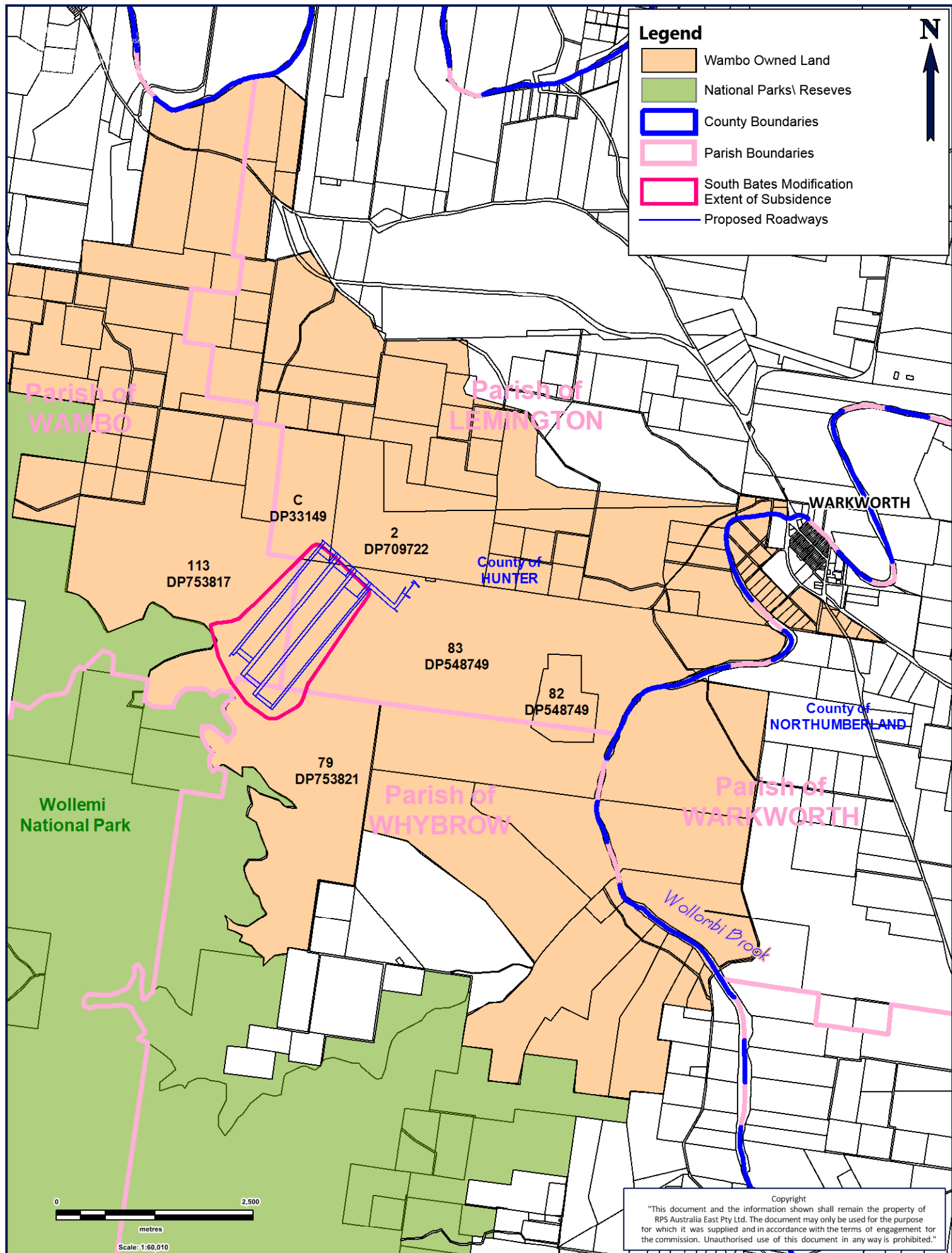
DATE: 30/07/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database
VERSION (PLAN BY): D A4 (NW-GG)

CLIENT: WAMBO COAL PTY LTD
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TITLE: FIGURE 4: LOTS WITHIN MODIFICATION PROJECT AREA

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 30/07/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\OBS\Wambo\Wambo Mapping Database
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1.3 Legislative Context

The following overview of the legal framework is provided solely for information purposes for the client, it should not be interpreted as legal advice. RPS will not be liable for any actions taken by any person, body or group as a result of this general overview, and recommends that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the summary below.

Aboriginal heritage (e.g. Aboriginal places, sites and objects) in NSW is protected by the NSW *National Parks and Wildlife Act 1974 (as amended)*, which is overseen by the OEH. In some cases, Aboriginal heritage may also be protected under the NSW *Heritage Act 1977*, which is overseen by the NSW Heritage Branch of the OEH. The EP&A Act, along with other environmental planning instruments, requires the investigation and assessment of Aboriginal heritage as part of the development approval process. For Crown Land, provisions under the NSW *Aboriginal Land Rights Act 1983* (overseen by the Office of the Registrar, *Aboriginal Land Rights Act 1983*) and the Commonwealth *Native Title Act 1993* may also apply.

1.3.1 National Parks and Wildlife Act 1974, As Amended

The primary state legislation relating to Aboriginal cultural heritage in NSW is the *National Parks and Wildlife Act 1974 (as amended)*. The OEH is responsible for the implementation of the provision of the *National Parks and Wildlife Act 1974*, which aims to provide for the protection of Aboriginal objects and places in NSW.

1.3.2 Heritage Act 1977

Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the *Heritage Act 1977 (as amended 1999)* and may be identified on the State Heritage Register or by an active Interim Heritage Order, in which they are protected under the *Heritage Act 1977* and may require approvals or excavation permits from the NSW Heritage Division.

1.3.3 The Burra Charter

The Burra Charter is a set of best practice principles and procedures for heritage conservation. It was developed by Australia ICOMOS, the Australian group of the international professional organisation for conservation. Although not cited formally in any Act, the Burra Charter underpins heritage management in NSW and Australia. The policies and guidelines of the Heritage Council of NSW and the NSW Heritage Division are consistent with and guided by the Burra Charter.

1.3.4 Environmental Planning & Assessment Act 1979

The *Environmental Planning & Assessment Act 1979* (EP&A Act) regulates the system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Assessment documents prepared to meet the requirements of the EP&A Act should address Aboriginal heritage, as well as relevant requirements of planning documents such as Local Environmental Plans (LEPs).

1.3.5 Aboriginal Land Rights Act 1983

The purpose of the *Aboriginal Land Rights Act 1983* is to provide land rights for Aboriginal people within NSW and to establish Local Aboriginal Land Councils. The land able to be claimed by Aboriginal Land Councils on behalf of Aboriginal people is certain Crown Lands that (clause 36 of the *Aboriginal Land Rights Act 1983*):

- (a) are able to be lawfully sold or leased, or are reserved or dedicated for any purpose, under the *Crown Lands Consolidation Act 1913* or the *Western Lands Act 1901*,

- (b) *are not lawfully used or occupied,*
- (b1) *do not comprise lands which, in the opinion of a Crown Lands Minister, are needed or are likely to be needed as residential lands,*
- (c) *are not needed, nor likely to be needed, for an essential public purpose, and*
- (d) *do not comprise lands that are the subject of an application for a determination of native title (other than a non-claimant application that is an unopposed application) that has been registered in accordance with the Commonwealth Native Title Act, and*
- (e) *do not comprise lands that are the subject of an approved determination of native title (within the meaning of the Commonwealth Native Title Act) (other than an approved determination that no native title exists in the lands).*

Claims for land are submitted by application to the Office of the Registrar, *Aboriginal Land Rights Act 1983*.

1.3.6 Native Title Act 1993

The Commonwealth Government enacted the *Native Title Act 1993* to formally recognise and protect native title rights in Australia, following the decision of the High Court of Australia in *Mabo & Ors v Queensland (No. 2)* (1992) 175 CLR 1 (“Mabo”).

Although there is a presumption of native title in any area where an Aboriginal community or group can establish a traditional or customary connection with that area, there are a number of ways that native title is taken to have been extinguished. For example, land that was designated as having freehold title prior to 1 January 1994 extinguishes native title, as does any commercial, agricultural, pastoral or residential lease. Land that has been utilised for the construction or establishment of public works also extinguishes any native title rights and interests for as long as they are used for that purpose. Other land tenure, such as mining leases, may be subject to native title, depending on when the lease was granted.

1.4 Aboriginal Community Participation in Field Survey

Following consultation with the Registered Aboriginal Parties (RAPs), a visual inspection of the Modification Project Area was undertaken over three days (28 and 29 May 2015 and 4 June 2015) by RPS Archaeologists Jeremy Hill and Philippa Sokol in partnership with representatives from a number of RAPs. Rostered groups who participated in the survey on included: Cacatua Culture Consultants (also known as Carcatchua Pty Ltd), Culturally Aware, DFTV Enterprises, Hunter Valley Aboriginal Corporation and Ungooroo Aboriginal Corporation. Peter Jaeger, Senior Environmental Advisor and Harry Egan, Environmental Advisor from Wambo also attended the survey.

1.5 Authorship and Acknowledgements

This CHIA was prepared by Gillian Goode, RPS Senior Cultural Heritage Consultant and reviewed by Tessa Boer-Mah, RPS Newcastle Cultural Heritage Manager.

The study team acknowledges the assistance in preparing this CHIA of various organisations and individuals, including the RAPs participating in the Wambo works.

2.0 Aboriginal Consultation

The purpose of Aboriginal community consultation is to provide an opportunity for the RAPs to have input into the cultural heritage management process. The OEH encourages consultation with Aboriginal people for matters relating to Aboriginal heritage. If an Aboriginal Heritage Impact Permit (AHIP) is required, then the ACHCRs are triggered in relation to Aboriginal consultation. In some circumstances the ACHCRs are also used as a framework for Aboriginal consultation, even if not specifically triggered by the preparation of an AHIP application.

As described in Section 1.2, WCPL is applying for modification to Development Consent (DA 305-7-2003) under Section 75W of the EP&A Act and a variation to Consent 2222. As such, Aboriginal consultation is required to be undertaken in accordance with the ACHCRs and condition 56A, Schedule 4 of DA 305-7-2003. A consultation log is included in **Appendix 1** and copies of correspondence in **Appendix 2**.

The ACHCRs include a four stage Aboriginal consultation process which stipulates specific timeframes for the components of each consultation stage. Stage 1 requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest (Eoi) in the assessment. This identification process should draw on reasonable sources of information including: the Office of the Registrar (*Aboriginal Land Rights Act 1983*), the relevant OEH Environment Protection Regulation Group Regional Office, the relevant Local Aboriginal Land Council(s), the National Native Title Tribunal, Native Title Services Corporation Limited, the relevant Catchment Management Authority and the relevant local council(s). The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the project area. Once a list of RAPs has been compiled from the Eoi process, the RAPs need to be consulted in accordance with stages 2, 3 and 4 of the ACHCRs.

Stages 2 and 3 of the ACHCR consultation process require the preparation of information about the Modification and the gathering of information about cultural significance. These stages include the provision of a Proposed Methodology to the RAPs for their review and comment, and the subsequent consideration of any comments received in the finalisation of the methodology. Stage 4 of the ACHCR consultation process requires that the assessment report (i.e. this CHIA) be provided to the RAPs for review and comment.

2.1 Native Title Searches

A search of the National Native Title Tribunal register information was made for the Wambo mining tenements on 6 April 2015 and again on 15 June 2015. The results of the searches show that a Native Title Claim has been registered for Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People over an area that includes Wambo. There are no other Native Title Claims currently registered for the area covered by the Modification. The Application is active awaiting a determination. A copy of the relevant Native Title Documentation is provided in **Appendix 3**. WCPL has maintained ongoing consultation and engagement with Scott Franks on behalf of the Plains Clans of the Wonnarua People throughout the preparation of this CHIA.

2.2 Registered Aboriginal Parties

In accordance with Section 4.1.2 of the ACHCRs and condition 56A, Schedule 3 of DA 305-7-2003, letters were sent on 18 March 2015 to the following organisations requesting the identification of interested Aboriginal groups (Appendices 1 and 2):

- OEH Newcastle Environment Protection and Regulation Group Regional Office;
- Singleton Shire Council;
- Hunter Local Land Services (formerly the Hunter-Central Rivers Catchment Management Authority);

- the Wanaruah Local Aboriginal Land Council (WLALC);
- Office of the Registrar, *Aboriginal Land Rights Act 1983*;
- Native Title Services Corporation Limited; and
- National Native Title Tribunal.

As a result of contacting these organisations, a number of individuals and groups were identified as potentially having an interest in the Modification and an EoI invitation letter was sent out to each group on 1 April 2015 (**Appendices 1 and 2**).

An advertisement inviting the registration 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 Modification Project Area was published in the Singleton Argus on 7 April 2015.

In addition, Aboriginal stakeholder groups with an interest in Aboriginal heritage works at Wambo have previously been identified (in compliance with the ACHCRs) and WCPL has maintained ongoing consultation and engagement with these groups since their individual expressions of interest. These Aboriginal stakeholder groups include those parties who registered for the following assessments:

- The South Wambo Underground Mine Modification registration period in September/October 2012.
- The North Wambo Underground Mine Modification registration period in May/June 2011.

All Aboriginal stakeholders who previously registered an interest in Aboriginal heritage works at Wambo were automatically registered for the Modification.

A list of the RAPs for the Modification is provided in **Table 1**.

Table 1 Registered Aboriginal Parties

Registered Aboriginal Party	Name of Representative
Aboriginal Native Title Consultants	John & Margaret Matthews
AGA Services	Patricia Kennedy
Bawurra Consultants	Kevin Sampson
Bullen Bullen Heritage Consultants	Lloyd Matthews
Breeza Plains Cultural Heritage Consultants	Terry Matthews
Buudang	Larry & Debbie Foley
Cacatua Culture Consultants (also known as Carcatchua Pty Ltd)	Donna & George Sampson
Carrawonga Consultants	Justin Matthews
Culturally Aware	Tracey Skene
Deslee Talbott Consultants	Deslee Matthews
DFTV Enterprises	Derrick Vale Senior
DRM Cultural Management	Helen Faulkner
EMT Cultural & Heritage	Mervyn Lesley
Scott Franks & Anor on behalf of Plains Clan of the Wonnarua People	Robert Lester & Scott Franks
Galamaay Consultant	Karen Matthews
Gidawaa Walang Cultural Heritage Consultancy	Annie Hickey
Giwiirr Consultants	Michele Stair & Rodney Matthews
HECMO Consultant	Kerren Boyd
Heilamon Cultural Consultants	Clifford Johnson

Registered Aboriginal Party	Name of Representative
HTO Environmental Management Services	Paulette Ryan
Hunter Valley Aboriginal Corporation	Rhonda Griffiths
Hunter Valley Cultural Consultants	Christine Archbold
Hunter Valley Cultural Surveying	Luke Hickey
Hunter Valley Natural & Cultural Resource Management	David French
I & E Aboriginal Culture and Heritage	Ivy Jaeger
Jarban & Mugrebea	Les Atkinson
Jeff Matthews	Jeff Matthews
JLC Cultural Services	Jenny-Lee Chambers
Jill Green	Jill Green
Kawul Cultural Services	Vicky Slater
Kawul (Wonn1)	Arthur Fletcher
Kayaway Eco-Cultural and Heritage Services	Mark Hickey
KL.KG Saunders Trading Services	Krystal Saunders
L.J Cultural Management	Les Field
Lorraine Towney	Lorraine Towney
Lower Hunter Aboriginal Incorporated	David Ahoy
Lower Hunter Wonnarua Cultural Services (also known as Lower Hunter Wonnarua Council Inc)	Tom Miller
Mingga Consultants	Clifford Matthews
Moreeites	Susan Cutmore
Muswellbrook Cultural Consultants	Brian Horton
Myland Cultural Heritage Group	Warren Schillings
Ngarramang-Kuri Aboriginal Culture & Heritage Group	Abie Wright
Roger Noel Matthews Consultancy	Roger Matthews
Ronald Fenwick	Ronald Fenwick
Roslyn Sampson	Roslyn Sampson
Scott Smith	Scott Smith
Smith Dhagaans Cultural Group	Timothy Smith
T & G Culture Consultants	Tony Griffiths
Ungooroo Aboriginal Corporation	Tasha Layer
Ungooroo Cultural & Community Services	Rhonda Ward
Upper Hunter Heritage Consultants	Darryl & Melissa Matthews
Upper Hunter Wonnarua Council Inc	Rhonda Perry
Valley Culture	Larry Van Vliet
Waabi Gabinya Cultural Consultancy	Elizabeth Howard
Wallagan Cultural Services	Maree Waugh
Wanaruah Custodians Aboriginal Corporation	Reginald Eveleigh
Wanaruah Local Aboriginal Land Council	Noel Downs
Warragil Cultural Services	Aaron Slater
Wattaka Wonnarua Cultural Consultancy Services	Des Hickey
Widescope Indigenous Group Pty Ltd	Amanda Hickey
Wonnarua Culture Heritage	Gordon Griffiths

Registered Aboriginal Party	Name of Representative
Wonnarua Nation Aboriginal Corporation	Laurie Perry
Wonnarua Traditional Owners	Des Hickey
Wurrumay Consultants	Kerrie Slater
Tocomwall Pty Ltd ¹	Scott Franks
Yinaar Cultural Services	Kathleen Steward-Kinchela

¹ Previously known as Yarrawalk (a division of Tocomwall Pty Ltd).

2.3 Proposed Methodology and Strategy for Collecting Information on Cultural Heritage Significance

Information regarding the Modification was provided in writing to all RAPs listed in **Table 1** on 24 April 2015. The correspondence included an invitation to attend an information session and a copy of the Proposed Methodology was provided for review and comment.

All RAPs were invited to an information session held at Wambo on Wednesday 26 May 2015. The purpose of the information session was to provide RAPs with an additional opportunity to raise any cultural issues or comments/perspectives regarding the Modification or the Proposed Methodology. The information session supported the information previously provided in writing and included a presentation on the nature and scale of the Modification, an overview of the impact assessment process, a discussion of the roles, functions and responsibilities of participants and protocols for the management of any sensitive cultural heritage information.

Three representatives of RAP groups attended the information session (i.e. Allen Paget from Ungooroo Aboriginal Corporation and Rhonda Griffiths and Emma Mitchell from Hunter Valley Aboriginal Corporation).

2.4 Comments on the Proposed Methodology

The period of review and comment on the Proposed Methodology closed on 27 May 2015. In accordance with the ACHCRs a minimum of 28 days was provided for review and comment by the RAPs including input in regard to the following aspects:

- the nature of the Proposed Methodology;
- any Aboriginal objects or places of cultural value within the Modification Project area, or issues of cultural significance;
- any restrictions or protocols considered necessary in relation to any information of sensitivity that may be provided; and
- any other factors considered to be relevant to the CHIA to be adopted into the information gathering process and assessment methodology.

As described in Section 2.3, an information session was held at Wambo on 26 May 2015 which provided all RAPs with an additional opportunity to raise any cultural issues or comments/perspectives regarding the Modification or the Proposed Methodology. A copy of the material presented at the information session is included in this report in **Appendix 4**.

At the close of the Proposed Methodology review period, the comments and feedback on the Proposed Methodology received by WCPL were recorded in the consultation log and are detailed below.

The following responses were received from the RAPs at the closing date for the comments on the Proposed Methodology:

Comments Received from Tocomwall Pty Ltd (on Behalf of the PCWP)

On 20 May 2015, Tocomwall Pty Ltd provided the following comments on the Proposed Methodology on behalf of the Registered Native Title Claimant group the Plains Clan of the Wonnarua People (PCWP). A copy of this correspondence has been included in **Appendix 2**.

Comment:

"Tocomwall Pty Ltd is the registered organisation acting on behalf of the PCWP in relation to consultation associated with the Wambo Coal Mine South Bates Modification Project (Project). The PCWP are of the view that Native Title Registration now affords the claimant group additional rights regarding the level of consultation for the Project.

Under the Office of Environment and Heritage's (OEH) guidelines; Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Section 3.2:

The objective of community consultation is to ensure that Aboriginal People have the opportunity to improve assessment outcomes by:

- *Providing relevant information about the cultural significance and values of Aboriginal Object(s) and/or Place(s).*

The Members of the PCWP have demonstrated through an extremely rigorous legislative process that they held, and still hold a strong connection to all areas within the Claimant boundary. As such, Members of the Claimant group are of the view that an additional level of consultation regarding the Project should be afforded to the group.

We understand that Proponents are required to fulfil their legal obligations under the National Parks and Wildlife Act 1974 and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010. However, given the significance of the Native Title Registration process, the PCWP request that Wambo Coal Pty Ltd engage in further and more detailed consultation so that the Project can benefit from the accuracy of knowledge afforded by the Registered Traditional Owners.

The PCWP have concerns that the historical consultation process whereby all Registered Aboriginal Parties are afforded equal consultation rights has the potential to negatively impact on the Aboriginal Cultural Heritage Assessment Process. Furthermore, implementation of a fieldwork rostering system could result in a level misinformation, whereby Registered Aboriginal Parties that are not part of the PCWP Claimant group are afforded an opportunity to comment on the cultural significance and values found in the study area. The PCWP are concerned that such a process may result in consultation and fieldwork misrepresenting, and potentially lowering the cultural value and scientific significance of Aboriginal sites associated with the Project area.

Tocomwall cannot agree with the methodology and therefore the approach undertaken which totally ignores our traditional protocols. We respectfully request that Wambo Coal Pty Ltd consider our concerns and we look forward to early and more detailed consultation regarding the Project."

WCPL Response:

WCPL acknowledges these comments.

As noted in the above comments provided by Tocomwall Pty Ltd, WCPL is required to comply with the ACHCRs. In accordance with this policy and condition 56A, Schedule 4 of DA 305-7-2003, WCPL is required to consult with all RAPs.

WCPL considers that the consultation process undertaken to date for the CHIA associated with the Modification (including the provision of a Proposed Methodology, approach to survey work and timing of survey work) is in compliance with the requirements of the NSW *National Parks and Wildlife Regulation 2009* and the ACHCRs (DECCW 2010a).

As described in Section 2.2, participation by the RAPs in field surveys for the Modification (and other works at Wambo) occurs in accordance with the roster system established at Wambo on 12 February 2009. This roster system provides for the equitable distribution of fieldwork for the various RAPs at Wambo. All RAPs involved in the Modification are included on the Wambo fieldwork roster.

Regardless of participation in the field surveys, all RAPs have been consulted with throughout the preparation of this assessment, including the opportunity to review and provide comment on the Proposed Methodology and the draft CHIA, as well as the opportunity to provide comments and feedback at any point during the preparation of the assessment and at the information session.

Comments Received from Ungooroo Aboriginal Corporation

On 20 May 2015, a representative of the Ungooroo Aboriginal Corporation verbally stated that the Ungooroo Aboriginal Corporation had no concerns with the content of the Proposed Methodology.

WCPL acknowledges these comments.

Comments Received from Hunter Valley Aboriginal Corporation

On 20 May 2015, a representative of the Hunter Valley Aboriginal Corporation verbally stated that the Hunter Valley Aboriginal Corporation supported the Wanaruah LALC in any comments they have regarding the Proposed Methodology. The representative of the Hunter Valley Aboriginal Corporation also raised queries regarding the storage of artefacts in the keeping place.

WCPL acknowledges these comments. WCPL maintains a temporary keeping place as agreed previously with RAPs and in accordance with the Care and Control Permit (#3130). The location (coordinates) of the temporary keeping place is registered with the OEH.

A full consultation log has been provided in **Appendix 1** of this CHIA. Copies of all relevant correspondence received in relation to this CHIA are included in **Appendix 2**, along with correspondence provided to the RAPs during the consultation process.

2.5 Field Survey Thursday 28 and Friday 29 May, and Thursday 4 June 2015

The field surveys were undertaken on 28 and 29 May, and 4 June 2015 following the close of the period for review and comment on the Proposed Methodology.

Participation by the RAPs in the field surveys for the Modification occurred in accordance with the roster system established at Wambo on 12 February 2009. This roster system provides for the equitable

distribution of fieldwork for the various RAPs at Wambo. In accordance with the roster system, the next rostered RAPs including the PCWP (via Tocomwall Pty Ltd) were invited to attend the field surveys for the Modification (**Appendix 1**).

WCPL sent out invitations to the next rostered RAPs by mail, email, fax and telephone on a number of occasions. Where attempts to contact the rostered RAPs were unsuccessful, or where the rostered RAPs were unable to satisfy Wambo site requirements, then attempts were made by mail, email, fax and telephone to contact the next RAPs on the roster.

The sites officers from the rostered RAPs who participated in the field survey for the Modification on 28 and 29 May, and 4 June 2015 are listed in **Table 2** below. As part of the Proposed Methodology, copies of OEH site cards relevant to the Modification Project area were provided onsite during the course of the survey works.

Table 2 Registered Aboriginal Parties who Participated in the Field Survey on 28 and 29 May, and 4 June 2015

Registered Aboriginal Party	Name of Representative	Thursday 28 May 2015	Friday 29 May 2015	Thursday 4 June 2015
Cacatua Culture Consultants	Adam Sampson	Yes	No	No
Culturally Aware	Georgina Berry	Yes	Yes	No
DFTV Enterprises	Katina Vale	No	Yes	No
Hunter Valley Aboriginal Corporation	Leanne Kirkman	Yes	Yes	No
Ungooroo Aboriginal Corporation	Allen Paget	Yes	No	Yes
	Marcus Sproule	No	Yes	No

During the field surveys for the Modification, discussions were held with the attending RAPs relating to the occurrence of the Aboriginal sites within the Modification Project Area, the site types encountered and the steepness of the terrain making access difficult. At the completion of the field survey, a review of the area surveyed was undertaken with the participating RAPs. The RAPs were asked to comment on the cultural significance of the area surveyed, the survey methodology undertaken and any additional comments they might have. The RAPs stated that they were satisfied with the survey coverage which was covered by measured transects. All new Aboriginal sites identified during the field survey will be registered on the AHIMS database and have been incorporated in the field survey results and mapping presented in this CHIA.

Field maps and previously recorded Aboriginal sites within and in close proximity to the Modification Project Area were discussed with attending RAPs, particularly in relation to their site patterning and access to resources such as water and food. The RAPs stated that they view all Aboriginal objects and Aboriginal sites as culturally significant and that there is a complex and rich archaeological resource at Wambo, as evidenced by the known Aboriginal sites in the area. The RAPs consider grinding grooves to be of high cultural significance. Site patterning differed across the Modification Project Area with the paucity of Aboriginal sites in the steep upper and midslope areas likely due to these areas being difficult to access and traverse in comparison to the lower slopes which were more accessible. Stony Creek was a high order, intermittently flowing creek line located within the Modification Project Area and there were a number of large open camp sites further downstream (but outside of the Modification Project Area) that showed that this area was favoured for occupation. The ridgeline was likely used for foraging and for access to the lower flat lying areas to the east. As expected, grinding groove sites were found along Stony Creek as the sandstone bedrock was fine grained and suitable for grinding stone and there was water available as a lubricant to assist in this process.

The RAPs present at the field survey stated that they should be included in all stages of the management of the Aboriginal sites in the Modification Project Area. The RAPs suggested that WCPL undertake regular subsidence monitoring of the Aboriginal sites to ensure subsidence movements are consistent with the

predicted movements. It was also noted that wherever possible, impacts to Aboriginal sites should be avoided; Aboriginal sites should be demarcated to protect them from inadvertent potential impact by vehicles and to restrict unauthorised access to the Aboriginal sites. Further that infrastructure should only be located within the limit of approved disturbance areas but only after mitigation of any extant Aboriginal sites.

It was discussed with the RAPs that artefacts should only be salvaged under an AHIP if harm to the objects or loss of the artefacts from the effects of subsidence or surface cracking cannot be prevented. If salvage of any Aboriginal object is required, then it is recommended that Aboriginal objects be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the relevant RAPs.

A summary of the issues raised by the RAPs during the field survey, and how they have been addressed is provided in **Table 3**.

Table 3 Summary of the Issues Raised by Sites Officers during Field Survey and how they have been Addressed in the CHIA

Issue	Response
Likelihood that artefact sites or Aboriginal objects within the Modification Project Area will be harmed by the Modification.	As described in Section 8, potential impacts to archaeological and cultural heritage within the Modification Project Area are predicted to be low for the artefact sites. Mitigation includes monitoring of potential subsidence by WCPL. Prior to mining, an Extraction Plan would be developed for Longwalls 14 to 16. The Extraction Plan would include a Heritage Management Plan which would detail proposed management measures for Aboriginal cultural heritage sites within the Modification Project Area. Aboriginal sites within the Modification Project Area are currently managed in accordance with the Section 87/90 Permit Consent 2222.
Likelihood that grinding groove sites within the Modification Project Area will be harmed by the Modification.	As described in Section 8, potential impacts to archaeological and cultural heritage within the Modification Project Area for the grinding groove sites is predicted to be low for Wambo Sites 296, 386 & 388 and moderate to high for Wambo Site 387. Options for the grinding groove sites should include archival recording and ongoing monitoring by WCPL to manage potential site damage from subsidence effects. With regard to Wambo Site 387, engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of each of the grinding groove sites. Prior to mining, an Extraction Plan would be developed for Longwalls 14 to 16. The Extraction Plan would include a Heritage Management Plan which would detail proposed management measures for Aboriginal sites within the Modification Project Area. Aboriginal sites within the Modification Project Area are currently managed in accordance with the Section 87/90 Permit Consent 2222.
Cultural sensitivity of the Modification Project Area – the RAPs stated that all Aboriginal sites are culturally significant and that there is a complex and rich archaeological resource in the area particularly along the creek banks.	WCPL acknowledges that all Aboriginal sites and objects are considered to be culturally significant and that the archaeological resource should remain <i>in situ</i> unless impact to the Aboriginal sites is unavoidable or loss of the artefacts from the effects of subsidence cannot be prevented.
The RAPs wished to be involved in all stages of the management of the Aboriginal sites in the area.	Prior to mining, an Extraction Plan would be developed for Longwalls 14 to 16. The Extraction Plan would include a Heritage Management Plan which would detail proposed management measures for Aboriginal sites within the Modification Project Area. Aboriginal sites within the Modification Project Area are currently managed in accordance with the Section 87/90 Permit Consent 2222. WCPL intends to apply to vary Consent 2222 to include those Aboriginal sites that are currently within the Modification Project Area but outside of the current Consent 2222 boundary.
The RAPs requested that regular subsidence monitoring be undertaken.	WCPL regularly conducts subsidence monitoring that would be outlined in the Extraction Plan that would be prepared for the Modification.

Issue	Response
Likelihood that artefact sites or Aboriginal objects will be harmed by vehicular movements within the Modification Project Area	Vehicular movements within the Modification Project Area would be limited to those required for monitoring and general maintenance activities. Vehicle access would be via existing vehicle tracks. Aboriginal sites within the Modification Project Area are currently managed in accordance with the Section 87/90 Permit Consent 2222.

WCPL has confirmed that no additional surface disturbance works are proposed for the Modification, other than remediation works (if required). Vehicular movements within the Modification Project Area would be limited to those required for monitoring and general maintenance activities. Vehicle access would be via existing vehicle tracks and would avoid impact to Aboriginal objects. It is considered likely that a variation to the existing Consent 2222 will be required to allow works to be undertaken to address minor additional disturbances to the Modification Project Area (i.e. potential subsidence impacts and subsidence remediation works, if required). This CHIA report will support the AHIP application.

2.6 Cultural Significance

With regards to gathering information about cultural significance in relation to the Modification Project Area, this CHIA presents relevant comments from the RAPs recorded during the May and June 2015 fieldwork and during the broader consultation process undertaken for the Modification. It is noted that the views documented are based on feedback received from representatives of the RAPs that chose to provide comment and may not reflect the views of the Aboriginal community as a whole.

2.7 Comments on the Draft CHIA Report

In accordance with the ACHCRs, the draft of this CHIA was provided to all RAPs listed in **Table 1** (copies sent 14 July 2015) for review and comment. Comments on the draft CHIA were requested (either verbally or in writing) by 14 August 2014. Responses received are included in the consultation log in **Appendix 1** (if verbal) or in **Appendix 2** (if written/email) of this report. This report will support the AHIP variation application.

The following responses were received from the RAPs on 6 August 2014:

- Bawurra Consultants – provided a verbal response and advised that they did not have any comments.
- Bullen Bullen Heritage Consultants – provided a verbal response and advised that they did not have any comments.
- DFTV Enterprises – provided a verbal response and advised that they did not have any comments.
- Heilamon Cultural Consultants – provided a verbal response and advised that they did not have any comments.
- Janbant Mugrebea – provided a verbal response and advised that they did not have any comments.
- Waree TA/ Wallangan Cultural Services – provided a verbal response and advised that they did not have any comments.
- Jeffrey Matthews – provided a verbal response and advised that he did not have any comments.
- Scott Smith – provided a verbal response and advised that he did not have any comments.

The above responses provided by the RAPs have been acknowledged and noted by WCPL.

Comments Received from Wanaruah LALC

On 14 August 2015, Wanaruah LALC provided the following comments (via email) on the draft CHIA:

Comment:

"This letter from the Wanaruah LALC does not express the views of any other Aboriginal stakeholder group or groups (whether their representatives are members of the LALC or not) who have chosen to speak in their own right. The comments provided are considered appropriate under Clause No. 42(4) (a) and (b) of the Aboriginal Land Rights Act (1983) (and its amendments) in relation to the role of the LALC in the protection and the promotion of awareness in the community, of culture and heritage for Aboriginal people within its boundary. Thank you for your letter and the above draft report dated July 2015 for the above project. Having reviewed the document we acknowledge that it is proposed to dig 3 additional long wall panels with the already consented mining area. Access is to be provided through the existing open cut mine."

WCPL Response:

Comment noted.

Comment:

"Regular surveys have been undertaken within the mine lease area over the last 6 years under an established roster system. The surveys in the modification area conducted in May and June this year, did not include fieldworkers from the Wanaruah LALC but we believe that 9 previously recorded sites were revisited and an addition 3 grinding groove sites were found in the creek bed of Stony Creek. It is agreed and recommended that these and the other 4 previously recorded grinding groove sites are of high significance to the Aboriginal people and that measures must be taken to ensure that they are not subjected to any subsidence damage and if so, that appropriate actions are taken to mitigate the effects. Appropriate recording of these sites must be undertaken prior to any long wall mining commencing within the modification area."

WCPL Response:

As described in Section 6.4, an archaeological investigation of the Modification Project Area using archaeological pedestrian survey methods was undertaken over a period of three days in May and June 2015 by RPS archaeologists with representatives from the RAPs.

During the fieldwork a total of seven previously unrecorded Aboriginal sites were identified within the Modification Project Area, thereby totalling nine extant Aboriginal sites in the Modification Project Area. These sites included three artefact scatters, two isolated finds and four grinding groove sites.

It is noted that the RAPs consider grinding grooves to be of high cultural significance (Section 2.5).

As described in Section 9.2, it is recommended that prior to commencement of longwall mining associated with the Modification, the grinding groove sites should be subject to archival recording in accordance with OEH standards. In addition, WCPL has indicated that archival recording of the grinding groove sites would be undertaken prior to extraction of the approved longwall panels in the Whybrow Seam.

It is further recommended that WCPL should undertake subsidence monitoring to ensure that subsidence effects are consistent with the predicted impacts. If a risk of harm is identified to grinding grooves, prior to, or during subsidence monitoring then engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer.

Comment:

"It is also agreed and recommended that the artefact sites known to be present are to remain in situ unless they are to be impacted in the future (or new sites found) and should this happen, not only should an archaeologist be present but all the RAPs are to be consulted and present at any salvage exercise."

WCPL Response:

Noted. As described in Section 9.2, it is recommended that the surface artefacts remain *in situ* unless impact to the Aboriginal sites is unavoidable. If there is a risk of harm to surface artefacts then they should be managed in accordance with Consent 2222 and any associated variations.

It is further noted that if any previously unrecorded Aboriginal sites are identified during the course of surface works in the Modification Project Area, the area should be demarcated and surface works suspended until the site has been adequately recorded by a qualified archaeologist. Any newly identified Aboriginal sites should be managed in accordance with management measures for similar sites or artefact types previously identified within the Modification Project Area or across the wider Wambo area contained in Consent 2222 and in consultation with the RAPs.

Comment:

"The Wanaruah LALC is in agreement with the 7 recommendations provided by RPS Australia East Pty Ltd in the draft report and look forward to be involved in any recording exercise for the grinding groove sites. We look forward to continuing the consultation and participation process in a fair and equitable manner."

WCPL Response:

Comment noted.

Comments Received from Wonn1 (Kauwal Pty Ltd)

On 14 August 2015, Wonn1 (Kauwal Pty Ltd) provided the following comments (via email) on the draft CHIA:

Comment:

"Thank you for the opportunity to review the above draft report. We have reviewed the document and agree with the recommendations - however it must be stressed that the grinding groove sites are of high cultural significance and it is a concern that the long wall mining may cause some subsidence in the Stony Creek/North Wambo Creek locations. It is therefore imperative that the sites be recorded for future generations and that regular monitoring with actions undertaken by qualified geological engineers be taken should considerable damage occur. The recording of these grinding grooves must be carried out and completed prior to any underground work commencing. A meeting should be arranged with all the RAP invited to discuss what recording methodologies will be used to ensure that the historic record of the sites is preserved for our future generations."

WCPL Response:

It is noted that the RAPs consider grinding grooves to be of high cultural significance (Section 2.5).

As described in Section 9.2, it is recommended that prior to commencement of longwall mining associated with the Modification, the grinding groove sites should be subject to archival recording in accordance with OEH standards. In addition, WCPL has indicated that archival recording of the grinding groove sites would be undertaken prior to extraction of the approved longwall panels in the Whybrow Seam. As part of the Heritage Management Plan required for the Extraction Plan for the South Bates (Whybrow) Underground Mine, WCPL has committed to undertake photographic recording in consultation with the RAPs.

It is further recommended that WCPL should undertake subsidence monitoring to ensure that subsidence effects are consistent with the predicted impacts. If a risk of harm is identified to grinding grooves, prior to, or during subsidence monitoring then engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer.

Comment:

"The artefact sites are not to be salvaged unless they are going to be impacted in the future. We look forward to continuing the consultation process with your organisation".

WCPL Response:

Comment noted. As described in Section 9.2, it is recommended that the surface artefacts remain *in situ* unless impact to the Aboriginal sites is unavoidable. If there is a risk of harm to surface artefacts then they should be managed in accordance with Consent 2222 and any associated variations.

3.0 Environmental Context

An understanding of environmental context is important for the predictive modelling of Aboriginal sites, as well as for their interpretation. The local environment provided natural resources for Aboriginal people, such as stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls, shelters, amongst others), in addition to areas for camping and other activities. The nature of Aboriginal occupation and resource procurement is related to the local environment and it therefore needs to be considered as part of the cultural heritage assessment process. The reporting of environmental context is required under the *Code of Practice of Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).

3.1 Geology

Aboriginal people often made stone tools using siliceous, metamorphic or igneous rocks and therefore understanding the local geology can provide important information regarding resources in the Modification Project Area. The nature of stone exploitation by Aboriginal people depends on the characteristics of the source, for example whether it outcrops on the surface (a primary source), or whether it occurs as gravels (a secondary source) (Doelman et al. 2008).

The surface geology of the Modification Project Area is predominantly comprised of the Jerrys Plains Subgroup of the Wittingham Coal Measures and the Watts Sandstone in the north-east, the Newcastle Coal Measures above the central portion of the longwalls and the Widden Brook Conglomerate in the south-west. The Whybrow Seam and the Wambo Seam lie within the Wittingham Coal Measures which mainly comprises coal seams and bedded sandstones, siltstones and thin beds of conglomerate and tuff (Sniffin, McIlveen and Crouch 1988).

The presence of sandstone in the Modification Project Area is important for Aboriginal occupation as sandstone was commonly used for grinding stone artefacts. Rock engravings and grinding grooves may be found in areas of exposed sandstone and sandstone outcrops, particularly along creek beds in nearby creek lines such as Stony Creek. Raw materials in the local area including silcrete, indurated mudstone and silicified tuff, as well as chert, basalt, rhyolite and petrified wood, were commonly used by Aboriginal people for manufacturing flaked stone tools. The softer shales and claystones are highly susceptible to water erosion processes and are generally unsuitable for the manufacture of stone tools. Shelters which may be found in eroded sandstone boulders along creek lines below the cliff line were sometimes used for shelter, and rock shelters may be found in the sandstone escarpment to the south-west and outside of the Modification Project Area.

3.2 Soils

The predominant soil landscape in the north-western part of the Modification Project Area is consistent with the Bulga soil landscape, which consists of smooth slopes forming undulating rises. The Bulga soil landscape is characterised by yellow soloths on the upper to midslopes with associated yellow and brown solodic soils, and brown earths on the lower slopes (Kovac and Lawrie 1991: 125-128). Minor to moderate sheet erosion is common (Kovac and Lawrie 1991:125-128). Stone artefacts may be found on the surface of these gently sloping areas and grinding grooves may occur in the sandstone lined creek beds. It is also possible that scarred trees may be found in close proximity to water in areas of forest with mature trees remaining.

The Lees Pinch soil landscape covers the steep mountains and rolling hills in the south-west of the Modification Project Area. Sands are typically shallow in this rocky area and are highly siliceous shallow loams, with yellow podzolic soils and earthy sands on some upper slopes, some yellow and brown earths on

foot slopes, yellow soloths at breaks in slope and grey soloths in midslope areas. Minor to moderate sheet and rill erosion is common in disturbed areas (Kovac and Lawrie 1991:243-249). Artefacts may occur associated with the banks of creeks in the areas dominated by alluvial deposits and grinding grooves may occur in the sandstone lined creek beds. Scarred trees may be found in areas where mature trees remain in close proximity to water.

The dominant soil type in the north-eastern and central part of the Modification Project Area is derived from the Benjang soil landscape which is associated with the Wollombi Coal Measures. These soils are characterised by: brown podzolic soils on upper slopes up to 22 centimetres (cm) in depth; yellow, red and brown solodic soils from 30 to 45 cm in depth on imperfectly drained benched slopes; siliceous sands on midslopes on quartz sandstone up to 60 cm in depth; and non-calcic brown soils up to 12 cm deep on lower parts of flatter slopes (Kovac and Lawrie 1991: 91-96).

Texture contrast soils occur in the Hunter Valley region. Where A horizon soils are deep the likelihood of potential stratified archaeological material is possible. B horizon soils if exposed are generally severely eroded and have usually been affected by water runoff and sheet wash erosion. A horizon soils can also be redeposited in the lower slope areas on a previously eroded clay B horizon (Kovac and Lawrie 1991:449). Artefacts may occur *in situ* within the A horizon soils or may be found at the interface of the A and B horizons, either eroded out of the A horizon soils or redeposited atop the areas of exposed clayey B Horizon.

3.3 Topography and Hydrology

The Modification Project Area has a generally north-east facing aspect and is situated to the south-west of the former North Wambo Creek, (with the south-western bank of the North Wambo Creek Diversion now within the north-eastern part of the Modification Project Area), with Stony Creek traversing the southern boundary. The Modification Project Area is predominantly characterised by undulating rises formed by smooth slopes and covered by sandstone colluviums in the northern part of the Modification Project Area. Slopes are up to 10 percent (%) gradient and local relief is 20-40 metres (m). Lengths of slopes are up to 200 m with drainage lines at 200-500 m intervals (Kovac and Lawrie 1991:125).

The Modification Project Area is predominantly situated within the North Wambo Creek water catchment, and is drained by a number of first and second order streams or creek lines. The Modification Project Area is approximately 720 m to the south-west of the former alignment of North Wambo Creek. Stony Creek lies in the southern part of the Modification Project Area. This is a high order stream with intermittent water flow and may have provided access for obtaining flora and fauna resources. There are no permanent water sources in the Modification Project Area and water availability on the upper slopes, midslopes and foot slopes is dependent on the first and second order ephemeral tributaries of these larger waterways.

3.4 Climate

Approximately 18,000 years ago, climatic conditions began to alter which affected the movement and behaviour of past populations within their environs. During this time, notably at the start of the Holocene (more than 11,000 years ago), the melting of the ice sheets in the Northern Hemisphere and Antarctica caused the sea levels to rise, with a corresponding increase in rainfall and temperature. The change in climatic conditions reached its peak about 6,000 years ago (Short 2000: 21).

Up until 1,500 years ago, temperatures decreased slightly, stabilising about 1,000 years ago to temperatures similar to those currently experienced. Consequently, the climate in the locality of the study area for the past 1,000 years would be much the same as present day, providing a year round habitable environment.

The Modification Project Area is located in the Singleton LGA which is situated in the Hunter Valley of NSW. The Modification Project Area has a temperate climate that is affected by its proximity to the mountain

ranges to the south-west. Summer and autumn are the wettest seasons with an average rainfall of approximately 720 mm and the temperatures averaging between 12 degrees and 24 degrees Celsius (Australian Bureau of Meteorology 2015). The temperate climate would be suitable for occupation for the majority of the year providing suitable shelter could be obtained during the wet periods.

3.5 Flora and Fauna

The historic settlement of the Hunter Valley included modification of the original vegetation communities, particularly through clearing for pastoral land uses. Broad scale vegetation mapping for NSW (Keith 2002) indicates that prior to such activities, the Modification Project Area was dominated by two vegetation communities, the Hunter-Macleay Dry Sclerophyll Forests and the Sydney Hinterland Dry Sclerophyll Forests.

The Hunter-Macleay Dry Sclerophyll Forests are characterised by an open canopy with trees up to 30 m tall, including spotted gums, iron barks, grey gums, boxes and turpentine. The understorey consists of a sparse layer of shrubs and a semi-continuous cover of grasses (Keith 2006: 124). The Sydney Hinterland Dry Sclerophyll Forests occur throughout the Sydney sandstone basin below elevations of 600 m. The trees vary in size from 10 m tall on ridges and dry slopes, up to 25 m tall in gorges and sheltered slopes. The shrub understorey is more open and less diverse than that of the coastal dry sclerophyll forests (Keith 2006:148).

The large array of resource plant species available in the area indicates that the region could have also supported a rich variety of fauna species (Nation Parks and Wildlife Service NSW 2003) which Aboriginal people may have used for sustenance, tools, and clothing. In the past, these vegetation communities would likely have supported a range of fauna such as macropods, koalas, possums, gliders and a range of reptile and bird species. Evidence for the consumption of such faunal species has been recovered from Aboriginal archaeological excavations in the region (Attenbrow 2006:72-73).

It is considered that the Modification Project Area and surrounds would have been well resourced in terms of water and food with a wide diversity of fauna and flora available in the local and regional area, although today the landscape has been highly disturbed by extensive clearing and previous farming practices.

3.6 Synthesis

A review of the environmental context of the region indicates that the probability of identifying Aboriginal sites in the Modification Project Area is considered to be high. The geology underlying the Modification Project Area would have provided raw materials suitable for the manufacture of stone tools, and the proximity of the Modification Project Area to waterways such as the former alignment North Wambo Creek and Stony Creek (intermittent water sources) suggests that the area would have been suitable for Aboriginal occupation.

Previous disturbance activities in the area include farming related practices such as clearing, grazing and slashing. Despite these modifications to the land, the soil landscape suggests that the Modification Project Area has the potential to contain *in situ* subsurface artefact deposits where the soils remain deep. Additionally, the vegetation (where not completely cleared) may possibly contain scarred trees.

An overview of the environmental context of the Modification Project Area indicates that there are rich food and raw material sources available. It would, therefore, have been a favourable area for Aboriginal occupation.

4.0 Aboriginal Heritage Context

The Aboriginal heritage assessment process requires that the significance of Aboriginal sites is assessed within a project area. Cultural significance is gathered by way of consultation with the Aboriginal community. In order to develop a predictive model for Aboriginal sites in the Modification Project Area, it is important for the local and regional context of the area to be taken into account. Historical records also provide additional information to assist with the interpretation of Aboriginal sites.

4.1 Historic Records of Aboriginal Occupation

It is necessary to acknowledge that early historical documents were produced for a number of reasons and may contain inaccuracies and/or bias in their reporting of events or other aspects of Aboriginal culture (L'Oste-Brown, Godwin and Poter 1998). Nonetheless, some historical documents provide important information and insights into local Aboriginal customs and material culture at the time of non-Indigenous settlement and occupation of the region.

In the late nineteenth century a number of writers described the Aboriginal peoples of the Hunter Valley. J W Fawcett (1898:152) described the “Wonnah-ruah [sic]” tribal district as that area drained by the Hunter River and its tributaries which covered some 2,000 square miles. He estimated the population in 1848 to have numbered between 500-600 people and provides details of some of their customs and dialect. This estimate of the population is similar to that reported by Robert Miller (1886:352) who quotes an informant from the Hunter River district as estimating the Wonnarua population in 1841 as being around 500 individuals. Miller also noted that by 1886 the population was almost extinct (1886:353).

According to Moore (Moore 1970:28) the Wonnarua territory was bounded by the Worimi who occupied the estuarine Hunter River and coastal land in the east, the Gamilaroi to the south-west, the Gewegal to the north-west and the Darkinjung to the south.

4.1.1 Aboriginal Implements

Fawcett (1898:152) provided a detailed description of the Wonnarua weapons and implements including the spear, woomera or throwing stick, shield, boomerang (both returning and non-returning), tomahawk or hatchet, flint knife, chip of flint or shell for skinning animals, club, yam stick for digging, bags of plaited swamp grass, wooden bowls, nets for catching fish and bark canoes.

4.1.2 Food and Useful Plants

Miller (1886:352) recorded that kangaroos, emus and reptiles were used as sources of protein and described how a variety of roots, most importantly that of the water lily, were roasted and eaten. Fawcett (1898:152) stated that wallabies, bandicoots, kangaroo rats, opossums [sic], rats, snakes, lizards, fish, shellfish, caterpillars, grubs, larvae of wasps, other insects and birds were used by the Aboriginal people as food resources.

W.J. Needham (1981) conducted interviews and research which resulted in a comprehensive study of Aboriginal sites in the Cessnock - Wollombi area. He describes *Xanthorrhoea australis* (grass tree), which is found in the Singleton area, as being an important resource (Needham 1981). Various parts of the grass tree were useful to make spear shafts, for sealing cracks in canoes and for securing stone tips in hunting spears (Needham 1981). It was also used to produce fire when two pieces of the dried flower stem were rubbed together (Needham 1981).

4.1.3 Campsites and Shelters

J.W. Fawcett (1898:152) described the preferred campsites of the “Wonnah-ruah [sic]” tribal district in the Hunter River catchment area as being located close to fresh water and food resources. A vantage ground was also favourable as a precaution against attacks on the camp.

The materials used to construct the campsites and shelters were made from organic matter which is highly unlikely to have been preserved in the archaeological record.

Fawcett (1898:153) also provided a description of the huts constructed for shelter. These huts were generally erected using forked sticks planted in the ground with straight sticks laid in the forks and covered over with sheets of bark sourced from local trees.

4.1.4 Clothing

Summer weather and the milder days of autumn and spring required little in the way of protective clothing; winter however, saw the use of animal skins for both clothing and as blankets (Heath n.d.:43). Miller (1886:352) describes Aboriginal people using possum skin cloaks with an ornamental nautilus shell suspended around the neck on a string.

4.1.5 Burials and Post Contact Phase

There are various reports concerning burial practices of Aboriginal people (Threlkeld in Gunson 1974). Burials appeared to be the most common form of internment with a well-documented preference for burials in sandy or loose soils, most likely resulting from the ease of digging a grave (Threlkeld in Gunson 1974).

4.2 Regional Archaeological Heritage Context

Archaeological evidence suggests that Aboriginal occupation of the Hunter Valley region began at least 35,000 years ago (Koettig 1987). Additional chronological evidence was recovered from the Hunter Valley's north-east mountains for which the following dates were assigned 34,580±650 (Beta-17009), >20,000 (Beta-20056) and 13,020±360 years Before Present (BP) (Beta-17271) (Koettig 1987, as cited in Attenbrow 2006). Kuskie (2000:215) identified artefacts at Wollombi Brook located in a clay horizon that have been dated to between 18,000 and 30,000 years BP. At Glennies Creek, approximately 50 km north-west of the Modification Project Area, Koettig (1987) excavated a hearth on an alluvial terrace where the radiocarbon-dated charcoal and geomorphological evidence provided a date of between 10,000 to 13,000 years BP. These archaeological sites show that the Hunter Valley region was occupied during the Pleistocene, dated up to 11,000 years ago (Short 2000). Pleistocene sites are generally rare and therefore contain significant archaeological/scientific information, as well as demonstrating the long occupation of Aboriginal people in the region.

The majority of Aboriginal sites in the region, however, are dated to the more recent Holocene (<11,000 years ago). This may reflect Aboriginal occupation patterns, but may also be influenced by the inaccessibility of potential coastal Pleistocene sites which were inundated when sea levels rose and reached present levels approximately 6,000 years ago (Mulvaney and Kamminga 1999:223). Evidence for Holocene Aboriginal occupation has been recovered from Bobadeen (7,760 calibrated years before present [cal. years BP]), as well as Milbrodale (1,420 cal. years BP) and Sandy Hollow (1,310 cal. years BP) (Moore 1970:58).

Ongoing archaeological investigations in the Hunter Valley have provided a basis for the development of predictive models of site distribution within this region. Studies completed by Koettig and Hughes (1983) have demonstrated that open artefact scatters are common throughout the Hunter Valley, with large open camp sites generally located in proximity to large creeks that provided a more reliable source of potable water, with smaller open camp sites distributed through a variety of landforms including large and small creeks, slopes and crests.

Certain typological temporal markers such as backed blades and eloueras are present within the Hunter Valley assemblages. Whilst these provide only a gross indication of time scale, based on the age of the soils and the presence of backed artefacts, the majority of Aboriginal sites in the Hunter Valley are considered to date to the late Holocene period.

The majority of archaeological sites surrounding the Singleton LGA are dated within the Holocene period (between 11,000 BP and present time). Wheeler (2006:5) believed the large number of Aboriginal sites in the area which date to this period is the result of increased Aboriginal populations and 'intensification' of site usage during the Holocene. Alternately, the high frequency of recorded Aboriginal sites dating to the Holocene in the Singleton LGA may be due to the rise in sea levels around 6,000 BP erasing evidence of older Aboriginal sites located on the coastal margins.

4.2.1 Regional Archaeological Studies

Using colonial records Brayshaw (1986) conducted extensive research of the landscape and the known Aboriginal communities in the broader Hunter Valley area. Although the ethnographic literature refers to ceremonial grounds and carved trees, these represent only a small portion of the Aboriginal sites which would have occurred in the Hunter Valley. Camp sites would have occurred more commonly, but little is recorded regarding the locations of such sites. The literature does indicate that in the Hunter Valley, as elsewhere, Aboriginal numbers were quickly and greatly reduced by European diseases.

Brayshaw's research into the ethnographic record also showed the distinction between the material culture and goods manufactured in inland and coastal areas, dependent on the resources available. The exchange of goods between inland and coastal inhabitants was also evident. Bark was probably the most commonly utilised raw material, associated with the construction of huts, canoes, cords, nets, drinking vessels, baskets, shields, clubs, boomerangs and spears. Being an organic material, very few such artefacts survive today. Scarred trees, carved trees, burial sites, ceremonial or bora grounds, cave paintings, rock engravings, axe grinding grooves, quarries and wells have all been recorded in the Hunter region. The distribution of these Aboriginal sites would generally have been reliant on environmental and cultural factors such as resource availability.

The colonial records describe the Hunter Valley as having tall cedar trees in the Paterson and Wallis Plains, in addition to lagoons, silted flood channels and open swamps. The clearance of the vine forests below Maitland changed the landscape dramatically. The Hunter Valley region was prone to both drought and flooding.

Surveys undertaken in the surrounding regional area of Warkworth and Jerrys Plains areas include, but are not limited to, those by Dyal (1979a and 1979b), Dyal (1980), Dyal (1981), Brayshaw (1981), Brayshaw (1984) and Koettig and Hughes (1983).

4.2.2 Local Archaeological Heritage Context

The local Aboriginal heritage context provides a review of previous archaeological work conducted in the local landscape, identifies whether Aboriginal sites have been previously identified in the Modification Project Area using the AHIMS database and informs the predictive model of Aboriginal sites for the Modification

Project Area. The review of previous archaeological work includes relevant local research publications as well as archaeological consultancy reports. Two types of archaeological investigation are generally undertaken; excavation and survey. Archaeological excavations can provide high resolution data regarding specific sites, such as the dates or chronology of Aboriginal occupation and information on stone tool technology (reduction sequences, raw material use, tool production, use wear and retouch). Archaeological surveys generally cover wider areas than excavations and can provide important information on the spatial distribution of Aboriginal sites. The detection of Aboriginal sites during survey can be influenced by the amount of disturbance or erosion and therefore sensitivity mapping is sometimes also required to interpret survey results. The local Aboriginal heritage context also provides a framework for assessing local significance.

4.2.3 Local Archaeological Studies

A number of archaeological surveys have been undertaken in the Hunter Valley; however, only the investigations most pertinent to the current Modification Project Area are summarised below. The information from the previous work will assist with predictive modelling by identifying potential archaeological sites, as well as providing background information for the assessment of significance, mitigation, management and the formulation of recommendations.

A comprehensive study covering the area to the east of the Wambo and Jerrys Plains ridgelines (including the Modification Project Area) was undertaken by White (2003). The results of the Environmental Impact Assessment (White 2003) showed that there were a large number of artefact scatters and isolated finds in the area, together with evidence of raw materials for making stone tools, ochre and an abundant supply of fauna and flora, all of which would have been useful resources.

Occupation areas or open camp sites were generally located on the gently sloping areas in close proximity to water. In particular, they were identified along major creek lines and at the confluence of major tributaries of North Wambo Creek, Wambo Creek, Waterfall Creek and Stony Creek. These creeks and their tributaries drain into Wollombi Brook and the Hunter River. The Hunter River lies to the north, Wollombi Brook lies to the east and Wambo Creek lies to the south-east. Stony Creek traverses the south-western part of the Modification Project Area. The former alignment of North Wambo Creek lay the north-east of the Modification Project Area and provided a supply of drinkable water to the Aboriginal people camping in this area. North Wambo Creek has since been diverted. The North Wambo Creek Diversion related to mining works at Wambo and the associated earthworks has severely disturbed and modified the north-eastern part of the Modification Project Area. The form alignment of North Wambo Creek now lies directly within the north-eastern part of the Modification Project Area.

Jerrys Plains Ridge lies to the north-west of the Modification Project Area. Wambo Ridge is contiguous with the Modification Project Area; the upper slopes comprise vertical sandstone cliffs with very steep screed and talus slopes. These north-east facing ridgelines are difficult to access and it is considered were unlikely to have been used for regular access through the mountains, but they may have been used for hunting and resources such as *Macrozamia* and *Xanthorrhoea* plants. The upper slope areas are screed with conglomerate sandstone boulders below the ridgeline. The midslope areas are moderately sloping and are incised by a number of ephemeral creek lines. These areas are densely vegetated with trees and a shrubby understory.

The foot and toe slope areas are gently sloping and were probably easily accessible to Aboriginal people. There is evidence of extensive flooding of the major creek lines in the region probably during high water flow events when the water spills down the creek lines. Pebbles and cobbles occur on the surface as lag deposit in such areas.

As substantiated by the density of artefact scatters and open camp sites in the foot slope and toe slope areas, it is considered likely that occupation was generally on the easily accessible sloped areas and on either side of the major creek lines. These locations would have provided convenient access to food and raw material resources.

The results of other archaeological studies undertaken in the local area show that the area in the northern portion of the Modification Project Area (south-west of the former alignment of North Wambo Creek) has a moderate density of artefact scatters and isolated finds, but that there is a paucity of Aboriginal sites in the screed slopes and upper parts of the ridgeline.

Corkill, T. 1990. Preliminary Survey for Archaeological Sites at South Wambo, near Warkworth, NSW.

Corkill (1990) was engaged to conduct an archaeological survey along Wambo Creek and Stony Creek. The total area surveyed was approximately 5.5 km. Six artefact scatters and nine isolated finds were identified, including an isolated find in the Modification Project Area (#37-5-0293). Corkill then conducted a test excavation which identified several hundred artefacts. Retouched, backed blades and scrapers were identified amongst the assemblage (Corkill 1990).

Rich, E. 1991a. Aboriginal Sites at Wambo, near Bulga in the Hunter Valley.

Archaeological survey and test excavation were carried out along Wambo Creek, Stony Creek and North Wambo Creek (Rich 1991a). These creeks drain from the Wollemi Escarpment and flow into Wollombi Brook north of Bulga. The investigations were carried out for Wambo Mining Corporation as part of environmental impact studies for proposed open cut and underground mining.

A total of 29 sites were recorded. Four were identified along Wambo Creek, four along Stony Creek and 21 were located on the banks of North Wambo Creek. The sites varied from small camp sites with a few artefacts to very extensive camp sites with hundreds of artefacts. Hearths and grinding grooves were also recorded.

Rich, E. 1991b. Investigation of Aboriginal Sites SW3 and SC4 at South Wambo, near Bulga, NSW.

Rich (1991b) undertook test excavations at two sites on Wambo Creek; both sites were located on spurs above creek flats. Artefact densities were recorded to be of low to moderate significance. Site SW3 was on a colluvial terrace with sediments 70 cm deep and the possibility of stratified soil was indicated (Rich 1991b).

Rich, E. 1991c. Proposed Open Cut and Underground Mining at Wambo, near Warkworth in the Hunter Valley, NSW: Archaeological Survey for Aboriginal sites.

Envirosciences Pty Ltd (Rich 1991c) was commissioned by Wambo Mining Corporation to assess the proposed extension of the existing open cut and underground mines at Wambo, located on the west side of Wollombi Brook at Warkworth in the Hunter Valley.

A survey was conducted along Stony Creek which is approximately 1.5 km long and varies from 250 m to 460 m wide. This area was selected by Envirosciences Pty Ltd for the survey as sites commonly occur along creeks. Survey was also conducted along North Wambo Creek.

Two isolated finds and 17 artefact scatters were identified within the survey area along North Wambo Creek. A possible scarred ironbark tree was observed adjacent to Wollombi Brook, 600 m east of the survey area. Three artefact scatters and four isolated finds were found along Stony Creek. Most of the sites were open sites, consisting of stone artefacts eroding out of Unit A deposits or lying on eroded Unit B clays. Eroding hearths were seen at two sites and the possible remains of a destroyed hearth at a third site. A stone structure which was considered to be a possible heat treatment oven was found at another site. An axe

grinding groove site with at least seven grooves and a boulder with two grooves was also identified. The sites were considered archaeologically significant as they displayed considerable variation in their contents.

It was recommended that an archaeological test excavation be carried out at Site 1, adjacent sites #37-5-0030, #37-5-0031, #37-5-0033 and Isolated Find 1 to determine their significance. It was recommended that if mining were to proceed the route of the North Wambo Creek Diversion channel should be retained in or near its present location to avoid Site 3 and that a management plan be developed for the area of the Group 2 sites along North Wambo Creek to address erosion of the sites and future land use. The report recommended that programmes to monitor subsidence in A298 (required by the Department of Minerals and Energy) should be designed to incorporate monitoring of Aboriginal sites already known for the area (Rich 1991c).

Rich stated that some of the sites along North Wambo Creek were of considerable archaeological significance as a variety of stone artefacts and a knapping floor were present. The Aboriginal sites along Wambo Creek were also considered by Rich to be of archaeological interest as a number of backed blades had been identified as well as being different to the Aboriginal sites identified along North Wambo Creek. Rich considered that the sites along all three creeks had the potential to provide archaeological information on changing Aboriginal land use through time. Rich stated that the underground mining works were unlikely to harm the Aboriginal sites along Wambo Creek and Stony Creek. The 16 sites along North Wambo Creek were located away from the open cut mining area and these sites included the axe grinding grooves, hearths, knapping floors, bulga knives, scrapers and other tools which she considered were sites of archaeological significance and should not be impacted upon by the proposed works (Rich 1991a).

White, E. 2003. Aboriginal Heritage Assessment for the Wambo Development Project Environmental Impact Statement.

White (2003) conducted an archaeological Aboriginal heritage assessment of the proposed Wambo Development Project. The existing Wambo open cut and underground mines are located on the west side of the Wollombi Brook and south of the Hunter River. This study was part of an Environmental Impact Statement (EIS) prepared by WCPL (White 2003). The study area was relatively large, covering approximately 60 square kilometres (km²). It was located on the eastern edge of high sandstone country, adjoining Wollemi National Park. The primary objective of the study was to assess the impact which the project would have on Aboriginal heritage.

The study identified a total of 292 sites in the project area or in proximity to the proposed rail line. From historical records dating to 1918, a carved tree site was identified to the east of Wollombi Brook, but has subsequently been destroyed. The location of this carved tree is unknown; however, attempts have been made to identify the general location of the tree Brayshaw (2003). While the carved tree site is no longer extant, the general area is still of considerable value as a ceremonial area to the Aboriginal community.

Other site types identified by White include grinding grooves, a probable scarred tree, two sites with glass artefacts and two other sites which included historical materials indicating they may have been contact sites. Two locations have been identified as potential dateable geomorphic contexts, a red sand body on which two sites were identified and a yellow sand dune east of Wollombi Brook. The remaining sites are open artefact scatters and isolated finds. One hundred and ten isolated finds were identified along with 69 artefact scatters of only two to four visible artefacts. Only 18 sites had more than 50 artefacts.

Based on the analysis of artefact distribution White identified a total of 20 potential Aboriginal site locations. The analysis undertaken by White of the artefact assemblages found variation in the distribution of stone raw materials across the study area, particularly silcrete (White 2003).

In addition to the above described archaeological studies, several other relevant studies were reviewed and their findings considered as part of this study. These additional studies include: Effenberger (1992), Silcox (1998) and Sutton (2002).

RPS. 2011. Aboriginal Cultural Heritage Impact Assessment: Montrose East Underground Modification.

RPS (2011) undertook an Aboriginal Cultural Heritage Impact Assessment (ACHIA) for the Wambo Coal Mine as part of a Section 75W modification to Development Consent (DA 305-7-2003) granted by the Minister for Planning on 4 February 2004.

The proposed modification included the development of three additional longwall panels in the Montrose East Underground Mine (Longwalls MEL W1 to MEL W3). Three Aboriginal sites were found to have been previously recorded within the Longwall ME W1 to MEL W3 boundary and buffer, including one artefact scatter, one isolated find and a Potential Archaeological Deposit (PAD) that had been previously recorded on the AHIMS database. These sites had been previously recorded by White (2003). The ACHIA prepared for the Montrose East Underground Mine Modification (Longwalls MEL W1 to MEL W3) identified one new site. The site was a scar tree site ST1. Potential impacts of the Montrose East Underground on Aboriginal cultural heritage included subsidence effects and direct disturbance, although it was not expected that any of these activities would have a significant impact on any of the Aboriginal sites. The modification application for the Montrose East Underground Modification was withdrawn and not approved.

RPS. 2012. Cultural Heritage Impact Assessment: North Wambo Underground Mine Modification.

RPS (2012) were commissioned by WCPL to undertake an Aboriginal and non-Indigenous CHIA for an EA as part of a Section 75W modification to Wambo Development Consent (DA 305-7-2003) granted by the Minister for Planning on 4 February 2004.

The modification included the development of two additional longwall panels in the Wambo Seam contiguous with the existing North Wambo Underground Mine (Longwalls 9 and 10). The project area was situated to the west of Wollombi Brook, south of North Wambo Creek, with Stony Creek traversing the southern boundary. A 70 m buffer was incorporated around the outside of the project area boundary to ensure that adequate survey coverage had been undertaken.

A number of Aboriginal sites were found to have been previously recorded within the Longwall 9 and 10 boundary and buffer, including 11 artefact scatters and seven isolated finds that had been previously recorded on the AHIMS database. The CHIA prepared for the North Wambo Underground Mine Modification (Longwalls 9 and 10) identified 16 new sites. Therefore the field survey of the project identified a total of 24 artefact scatters, nine isolated finds and one possible scar tree. All previously recorded sites were ground truthed including those previously identified by White (2003). The majority of sites identified were located along crests, upper and midslope areas of the rolling hills and on the lower slope areas above the floodplain.

An inspection was also made of areas that had been previously mined by longwall mining to view the impact of subsidence on artefact sites in those areas to that time. The Aboriginal community determined that if subsidence impacts were minimal then it was unlikely that artefact sites would suffer impact. However, where subsidence predictions were moderate to high and where Aboriginal sites were likely to be affected by subsidence, mine infrastructure or use of access tracks then the sites would require salvage (RPS 2012).

RPS. 2012. Archaeological Due Diligence Assessment: Montrose Water Storage Modification.

RPS was commissioned by WCPL to undertake an Archaeological Due Diligence Assessment as part of a Section 75W Modification to Development Consent (DA 305-7-2003) for the Wambo Coal Mine which was granted by the Minister for Planning on 4 February 2004. The modification was for the construction of a water storage area and related surface facilities referred to as the Montrose Water Storage Dam (MWSD).

The project area for the MWSD was situated to the south-west of former alignment of the North Wambo Creek and to the north-west of the approved SBUM.

No Aboriginal sites or objects were identified in the area of the proposed activity for the MWSD although five sites were identified in the surrounding area. There were two previously recorded PADs to the east of the proposed MWSD and one artefact scatter, one isolated find and one PAD to the north-west of the proposed MWSD. These sites had been previously recorded by White (2003). The site extents were ground truthed and it was found that none of the sites were within the proposed area of impact. As a precautionary measure WCPL advised that all known and recorded sites in the surrounding area would be protected by high visibility barrier fencing to ensure that the proposed activity for the MWSD would not inadvertently impact or harm any Aboriginal objects at these sites. The area of the PADs and artefact site would be buffered and the protective barrier would be placed outside of this buffer.

RPS. 2014. Cultural Heritage Impact Assessment: North Wambo Underground Mine Longwall 10A Modification.

RPS (2014) were commissioned by WCPL to undertake an Aboriginal and non-Indigenous CHIA for an EA as part of a Section 75W modification to Wambo Development Consent (DA 305-7-2003) granted by the Minister for Planning on 4 February 2004.

The modification included the development of an extension to the approved North Wambo Underground Mine with an additional longwall panel Longwall 10A in the Wambo Seam contiguous with the existing North Wambo Underground Mine (Longwalls 9 and 10). The project area was situated to the west of Wollombi Brook, south of North Wambo Creek, with Wambo Creek (also known as South Wambo Creek) traversing the southern boundary. A buffer was incorporated around the outside of the project area boundary to ensure that adequate survey coverage had been undertaken.

A number of Aboriginal sites were found to have been previously recorded within the Longwall 10A project area boundary and buffer, including five artefact scatters that had been previously recorded on the AHIMS database. The previously recorded Aboriginal sites were ground truthed. The CHIA prepared for the North Wambo Underground Mine Modification (Longwalls 10A) identified four new isolated finds. Several other new Aboriginal sites were identified just outside of the Longwall 10A project area.

The field survey of the project identified a total of five artefact scatters and four isolated finds. Sites previously identified by White (2003) and those recorded on the AHIMS database were ground truthed. The majority of sites identified within the project area were located along the upper bank of Wollombi Brook and the southern bank of South Wambo Creek on the slope above the floodplain.

An inspection was also made of areas that had been previously mined by longwall mining to view the impact of subsidence on artefact sites in those areas to that time. The Aboriginal community determined that if subsidence impacts were minimal then it was unlikely that artefact sites would suffer impact. However, where subsidence predictions were moderate to high and where Aboriginal sites were likely to be affected by subsidence, mine infrastructure or use of access tracks then the sites would require salvage (RPS 2014).

4.3 Aboriginal Heritage Information Management System

A search of the OEH AHIMS database (Client Service ID 168425) was undertaken on the 8 April 2015 using two separate sets of co-ordinates in order to effectively cover the Modification Project Area and its regional environs. The coordinates searched were Zone 56 GDA Eastings 300709 to 309498 and Northings 6393640 to 6397306, which yielded a count of 102 previously recorded sites within the search area of Poly 1B; and Zone 56 GDA Eastings 300709 to 309498 and Northings 6390500 to 6393640, which yielded a count of 44 previously recorded sites within the search area of Poly 3a1.

The AHIMS searches revealed that there were 146 registered sites within the search area but it was identified that there were a number errors on the AHIMS database which included incorrect coordinate data, artefact counts and site details. AHIMS #37-5-0585 an Aboriginal site at Toorale-Nulty is located in north-western NSW and was incorrectly entered with Hunter Valley co-ordinates; the entry has subsequently been revised. AHIMS #37-5-0679, FW-AS1 was a duplicated entry of AHIMS #37-5-0674 FW AS1 and the duplicate entry has since been removed. There were two Aboriginal sites on a single site card, namely AHIMS#37-5-0474, Wambo Sites 86 and 87.

A large number of the Aboriginal sites are shown as artefact sites with the number of artefacts unspecified, but the site cards clearly show whether the Aboriginal sites are isolated finds or artefact scatters. In light of these discrepancies the data has been recalculated (using the correct actual data rather than the inaccurate AHIMS data). The count of sites has been reduced from 146 to 144 to reflect the removal of the erroneously entered AHIMS Sites #37-5-0585 and #37-5-0679 (**Table 4**).

Table 4 Summary of AHIMS Search Results of Sites in the Broader Region ordered by Site Type and Frequency

Site Type	Frequency	Percent %
Rock shelter with deposit & isolated find	1	0.69
Scar Tree	1	0.69
Grinding Grooves	2	1.39
PAD	12	8.34
Artefact Site – number of artefacts unspecified	31	21.53
Artefact Site – isolated find	42	29.17
Artefact Site – artefact scatter	55	38.19
Total	144	100%

Source: AHIMS 8 April 2015 (Appendix 5).

There was one rock shelter with deposit and an isolated find on the surface of the rock shelter midslope close to Wollemi National Park (n=1). There was a scar tree (n=1) on the gently sloping toe slopes to the south-west of North Wambo Creek. There were two grinding groove sites (n=2) on the northern side of the former alignment of North Wambo Creek. There were twelve PADs (n=12) along the gently sloping toe slopes to the south-west of North Wambo Creek. Artefact sites were the most numerous and included artefact sites (number unspecified) (n=31), isolated finds (n=42) and artefact scatters (n=55). Combining all three artefact site types together (artefact scatters, isolated finds and artefact sites with the number of artefacts unspecified) makes a total count in the regional area of 128 artefact sites which represents 88.88% of all sites in the regional area. Inspection of the site cards show that most of the artefact sites listed on the AHIMS database as number unspecified are actually artefacts scatters with some isolated finds. Most artefact scatters have a count of less than ten artefacts classed as small scatters, with the remainder being moderate scatters with a count between 11 and 50 artefacts, and only one site with 60 artefacts and one with 148 artefacts and therefore classed as large scatters.

The AHIMS search results revealed that although there were 144 registered sites that had been previously recorded within the wider area, there were only nine previously recorded sites within the Modification Project Area: five artefact scatters, three isolated finds and one grinding groove site. Of these, five artefact scatters and two isolated finds have been subsequently salvaged under Consent 2222 including Wambo Site 89 (AHIMS #37-5-0476), Wambo Site 90 (AHIMS #37-5-0477), Wambo Site 146 (AHIMS #37-5-0394) Wambo Site 147 (AHIMS #37-5-0395), Wambo Site 148 (AHIMS #37-5-0397), Wambo Site 149 (AHIMS #37-5-0399) and Wambo Site 150 (AHIMS #37-5-0401). There were two previously recorded extant sites in the Modification Project Area: one grinding groove site Wambo Site 296 (AHIMS #37-5-0590) and one isolated find Wambo Site 297 (AHIMS #37-5-0591). No Aboriginal Places have been registered within the Modification Project Area.

A review of the sites within the regional area was undertaken to identify the site patterning likely to occur in the Modification Project Area. Previously recorded Aboriginal site types within the Modification Project Area are shown on **Table 5**.

Table 5 Summary of AHIMS Search Results of Sites in the Modification Project Area ordered by Site Type and Frequency

Site Type	Frequency	Percent %
Artefact Scatters	5	55.56
Isolated Finds	3	33.33
Grinding Groove	1	11.11
Total	9	100%

Source: AHIMS 8 April 2015 (Appendix 5).

The search results were correlated with the results of previous surveys including the findings of White (2003) for the EIS (refer Section 4.3.1). A bora ground AHIMS #37-5-0056 (Wambo Site 2) has been recorded in the region, but this site is more than 6.5 km to the east of the Modification Project Area. The bora ground is located on the eastern bank of Wollombi Brook. The bora ground and sites in proximity to Wollombi Brook will not be impacted by the Modification, and therefore are not considered further in this CHIA.

Stone artefact surface sites were the predominant site type and included isolated finds and artefact scatter sites. Stone artefacts generally are found in flat or gently sloping, open regions and on level, well drained land features in close proximity to water courses. In the regional area artefact scatters and isolated finds make up the majority of site types. Raw materials used were predominantly indurated mudstone and silcrete, plus quartz, quartzite, chert, basalt, dolerite, tuff, petrified wood, sandstone and rhyolite. Artefact sites were predominantly close to permanent water. Scar trees had also been identified in the broader area but they were outside of the Modification Project Area. A grinding groove site (Wambo Site 296) has been previously identified in the Modification Project Area.

Grinding grooves are often found on large open and relatively flat areas of sandstone shelving and outcrops in close proximity to water, such as the exposed sandstone along rivers and other tributary drainage lines and swamps. Sandstone of a type suitable for use for grinding stone tools occurs in the creek beds of tributaries that flow from Wambo Ridge to North Wambo Creek to the north-east. One grinding groove site has been previously recorded in the Modification Project Area: Wambo Site 296 (AHIMS #37-5-0590). An isolated find Wambo Site 297 (AHIMS #37-5-0591) has been recorded upstream from the grinding groove.

A conglomerate boulder with a hollowed out interior and sandy deposit with isolated artefact on the surface (Wambo Site 322, AHIMS #37-5-0665) had been previously identified on the bank of an ephemeral creek line approximately 2,750 m to the north-west of the Modification area. The scar tree site (Wambo Site 324, AHIMS #37-5-0578) was located approximately 1,370 m to the north-west of the Modification area on the toe slopes to the south-west of the former alignment of North Wambo Creek. Both sites are located outside of the Modification Project Area.

The AHIMS searches are included in **Appendix 5** and details of relevant site cards in **Appendix 6**.

The Jerrys Plains Ridgeline that trends from the north-west to the south-east is located outside (west of) the Modification Project Area and comprises rolling hills (midslopes and upper slopes) as well as, very steeply sloping scree and talus slopes with vertical sandstone cliffs which form associated with the ridgelines. These north-east facing ridgelines are relatively inaccessible and were unlikely to have been utilised as trading routes as there are more accessible passes through the mountains to the northwest and southwest of the Modification Project Area. The Stony Creek valley marks the south-western extent of the Modification Project Area. The north-eastern extent is delineated by the gently sloping toe slopes of the former alignment of North Wambo Creek and today by the south-western bank of the current North Wambo Creek Diversion.

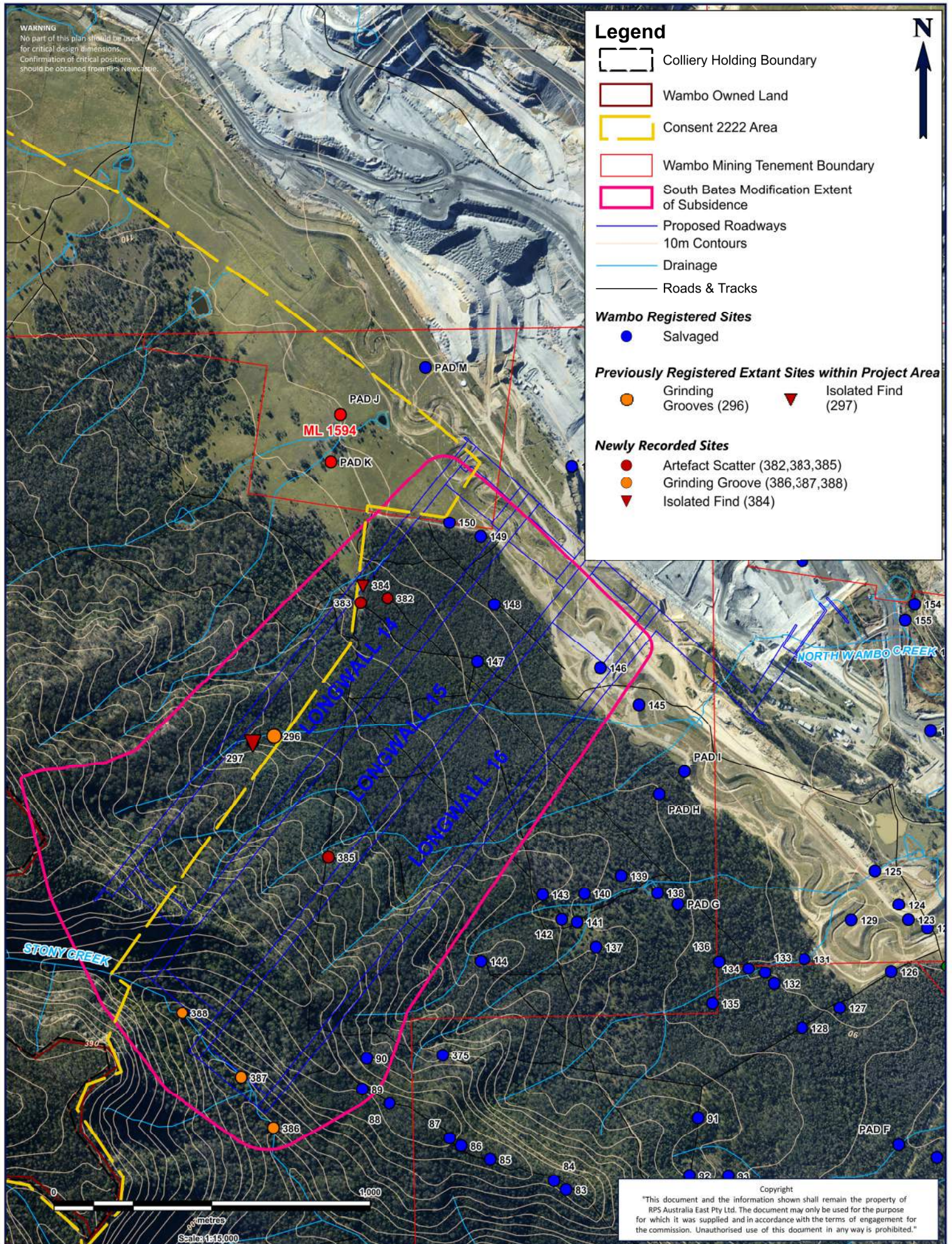
The area on the south-western side of the North Wambo Creek Diversion has been disturbed by farming and mining practices and mostly comprises elevated areas above the floodplain. The vegetation has been subject to land clearing and there is extensive bush regeneration in some areas. Scar trees are usually found in close proximity to water or on easily accessible slopes, but no culturally modified trees had been identified previously in the Modification Project Area although there were some mature trees in the vegetated areas. No PADs had been previously identified in the Modification Project Area although several had been recorded to the east and west during previous survey efforts.

4.3.1 Summary of AHIMS Search Results

The AHIMS search results show that the majority of recorded site types occurring in the Modification Project Area are artefact sites (artefact scatters and isolated finds) although there was also one grinding groove site. The results of the AHIMS searches show that the area would most likely have been used for camping and resource procurement, particularly with relation to the former alignment of North Wambo Creek to the north-east and Stony Creek and Wambo Ridge. The Modification Project Area is characterised by the rock lined, steep sided Stony Creek valley, steeply sloping ridgeline below Wambo Ridge, screed slopes below the ridgeline with deeply cut creek channels extending from the upper slopes before flattening out on the mid to lower slopes to the south-west of the former North Wambo Creek.

Only nine sites were previously recorded within the Modification Project Area; of these five artefact scatters and two isolated finds: Wambo Site 89 (AHIMS #37-5-04760, Wambo Site 90 (AHIMS #37-5-0477), Wambo Site 146 (AHIMS #37-5-0394) Wambo Site 147 (AHIMS #37-5-0395), Wambo Site 148 (AHIMS #37-5-0397), Wambo Site 149 (AHIMS #37-5-0399) and Wambo Site 150 (AHIMS #37-5-0401) have been salvaged under Consent 2222. The remaining two sites: grinding groove Wambo Site 296 (AHIMS #37-5-0590) and isolated find Wambo Site 297 (AHIMS #37-5-0591) are still extant. Previously recorded sites in proximity to the Modification Project Area (including previously salvaged and extant sites) are shown on **(Figure 5)**.

During the fieldwork a total of seven previously unrecorded Aboriginal sites were identified within the Modification Project Area, thereby totalling nine extant Aboriginal sites in the Modification Project Area **(Figure 5)**. The new sites were: three artefact scatters (Wambo Site 382, Wambo Site 383 and Wambo Site 385); two isolated finds (Wambo Site 297 [AHIMS #37-5-0591] and Wambo Site 384); and four grinding groove sites (Wambo Site 296 [AHIMS #37-5-0590], Wambo Site 386, Wambo Site 387 and Wambo Site 388). No Aboriginal Places have been registered in the Modification Project Area.



TITLE: FIGURE 5: MODIFICATION PROJECT AREA
WITH AHIMS AND RECORDED ABORIGINAL SITES

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 30/07/2015
PURPOSE: HERITAGE

LAYOUT REF: \\\085\\Wambo\\Wambo Mapping Database
VERSION (PLAN BY): D A4 (NW-GG)

CLIENT: WAMBO COAL PTY LTD
JOB REF: 126088

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
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4.3.2 Predictive Model for Archaeology in the Modification Project Area

A predictive model is created to give an indication of Aboriginal sites likely to occur within the Modification Project Area. It draws on the review of the existing information from the regional and local archaeological context and the environmental context. The predictive model is necessary to formulate appropriate field methodologies in addition to providing information for the assessment of archaeological significance.

There are a number of factors which influence Aboriginal occupation of an area. These include essential subsistence resources such as food (flora and fauna), and fresh water. Additionally, floral and faunal resources were used for clothing, medicines, shelter, baskets and shields. Raw stone materials were utilised for the manufacture of tools and weapons. Ridges, flat elevated areas and rock shelters would have been favoured as places for occupation. Cultural or spiritual sites, such as corroboree sites, mythological places and initiation sites, may have been associated with certain landforms or specific sites or areas in the landscape.

4.4 Site Predictions

The following site predictions for the Modification Project Area have been made on the basis of the environmental context, available historic observations of Aboriginal people in the region, previous archaeological studies and surveys and analysis of the AHIMS data.

4.4.1 Site Type

The Modification Project Area is located inland in an area which has been extensively farmed and mined. On the basis of the AHIMS data and the information available from previous archaeological investigations, it is considered that artefact sites (scatters and isolated finds) would be the most likely site type to be present in the Modification Project Area. Other site types such as grinding groove sites, boulder rock shelters and scar trees could also be present within the Modification Project Area.

4.4.2 Site Locations

The majority of artefact scatters and isolated finds in the vicinity of the Modification Project Area have previously been identified within 200 m of a watercourse on elevated landforms (above the flood level) to the north of Stony Creek, on the upper banks and on the gently sloping foot slopes to the south-west of the former North Wambo Creek. This indicates that the locations in the Modification Project Area with the highest potential to contain artefact sites would be those near watercourses or drainage lines, and the lower slopes which characterise much of the northern portion of the Modification Project Area to the south-west of the former North Wambo Creek on the lower toe and foot slopes.

Locations likely to contain grinding grooves and sandstone grinding surfaces would be sandstone sheets associated with the creek lines (e.g. high order streams such as Stony Creek). Scar tree sites are more likely in areas where mature trees remain.

The AHIMS database and Wambo Sites Register relating to sites in the local and regional area have indicated the likelihood for artefact sites and the presence of scar trees which may contain more than one modified surface, and flat lying sandstone sheets which may have been utilised for grinding purposes and other associated activities.

4.4.3 Site Contents and Raw Materials

A review of previous archaeological investigations in the local area indicated that artefact scatters and isolated finds generally comprise flaked stone artefacts manufactured predominantly from mudstone and silcrete raw materials, with minor representations of tuff, quartz and quartzite and occasionally basalt, chert,

chalcedony, petrified wood and felsic volcanics. It is therefore predicted that sites with artefacts within the Modification Project Area would be characterised by flaked stone tools, cores and flakes largely manufactured from mudstone and silcrete. It is predicted that grinding grooves would occur on platforms or boulders of fine grained sandstone.

4.4.4 Site Condition

Due to the effects of previous land use, such as extensive clearing, sheet wash erosion, dam and fencing construction, grazing livestock and the highly disturbed nature of the area, it is predicted that the Modification Project Area would be unlikely to contain any deep sub-surface archaeological deposits and that any archaeological deposits that may be present were unlikely to retain spatial or stratigraphic integrity.

Previous land clearing and land use is deemed to have lowered the likelihood of any scarred trees being identified in the area. Outcrops of sandstone occur within the Modification Project Area which may contain grinding grooves particularly along the high order watercourse of Stony Creek. The most common site type is artefact sites but it is likely that they would be on the surface of the B horizon and unlikely to contain subsurface artefacts *in situ*, due to the extent of erosion and previous farming practices. Modifications to the land surface in the Modification Project Area are likely to have had an adverse affect on any archaeological features.

4.5 Limitations

As described above, there have been extensive assessments carried out in the vicinity of the Modification Project Area and surrounds. It is assumed all available and up-to-date information has been assessed and presented in this CHIA, however minor limitations such as unidentifiable AHIMS errors may exist. It is assumed that all relevant cultural knowledge that may have the potential to be harmed by the Modification has been provided by the RAPs during the CHIA consultation process.

5.0 Historic Heritage Context

5.1 Historical Overview

Initial contact between Aboriginal and non-Aboriginal people in the Upper Hunter Valley was in 1797. Permanent settlement of the Hunter Valley was established in 1804 with a penal colony for the convicts who had been deemed unsuitable to remain in Sydney (generally, re-offenders). While the lower Hunter was developed on a foundation of industrial production, the Upper Hunter maintained a predominantly agrarian purpose. An important figure in the early exploration of the Upper Hunter was John Howe, who first commented on the suitability of the land for agricultural use. The narrow floodplain between Aberdeen and Patrick's Plains was declared to be "...*The finest sheep land I have seen since I left England...The grass on the low ground is equal to a meadow in England* (Wood 1972)".

The town of Singleton was named after Benjamin Singleton, who had taken part in the navigation of an overland route between the Hawkesbury and Hunter Rivers. He was granted land on the site of what is presently the town of Singleton by Governor Brisbane in 1823 (Wood 1972). Singleton settled on this land and established a residence. In 1827 Singleton set up the first inn in the area, called The Barley Mow, which was followed by the establishment of a flour mill in 1829 and a post office. The railway arrived in Singleton in 1863 and assisted in the further development and economic prosperity of the town (Appleton 1963).

5.2 Local History

5.2.1 Warkworth

The Cockfighter Creek was the first name given to the Warkworth area in 1820. By 1840 there were three hotels and it was the stopping place for the coaches from Sydney. In general, land in the Warkworth area was leased by crown grants and used as grazing land. There was little significant construction undertaken on this land (Weir and Phillips Architects & Heritage Consultants 2007:4).

In January 1863, the *Real Property Act 1862* was introduced and many larger leases were divided into smaller lots. This was the beginning of the dairy industry of the Hunter Valley, which was subsequently strengthened by the completion of the Hawkesbury River Railway Bridge in 1888 (Weir and Phillips Architects & Heritage Consultants 2007:4). Until World War II, dairy farming, timber felling and grazing remained the most dominant industries in the Upper Hunter.

5.2.2 Jerrys Plains

In November 1819, John Howe reached Jerrys Plains via Windsor (Brayshaw 1987:9) along a route which later became known as the "Bulga Tack" and is the present day Putty Road. The name Jerrys Plains was taken from the name of one of Howe's men, a convict named Jerry Butler, who died in the area during the course of their exploration. The first printed use of the name Jerrys Plains appears in the newspaper *The Australian* on the 4th February 1827 and subsequently in the 1828 census.

Throughout the 1820s, Jerrys Plains was populated sparsely, with approximately 500 people living in the Paterson Plain and Patrick Plain districts. This small population may have been a result of a drought, which was observed by Reverend J. D. Lang upon his arrival in the Hunter in 1828. Once the Putty Track and the Great North Road were established during the late 1820s to early 1830s, growth in rural commerce and local industries saw an associated increase in the population of the area.

Constable J. Needham became the first Police Officer in Jerrys Plains in 1827. By 1831 government officials had decided to establish a mounted police station in the town due to the increased number of burglaries in

the district and to assist in the dealings between Europeans and Aboriginal peoples. Barracks and officers quarters were constructed in the official village reserve in 1832. In March 1833, the headquarters of the Hunter River division of the Mounted Police was transferred to Jerrys Plains from Maitland.

A Post Office was established in 1837 and an ex-convict, Robert Thomas Capp, was the first Postmaster. By this time, Jerrys Plains had become an important junction between Maitland and Cassilis on the Gammon Plains near Merton, and further to Bathurst. In 1844, the first school was established in the town by the Church of England. The residents of the town petitioned the government for a public school in 1847, however, it was not established until 1881.

5.2.3 Wambo Homestead

James Hale, a former convict, began acquiring the property of Wambo during the 1830s, in individual parcels eventually amounting to approximately 8,000 acres. The first buildings of the Wambo Homestead were constructed in 1832, with major extensions made in the mid-1840s. In 1850, James Hale's stepson, William Durham, settled at Wambo with his family and property became known for its Durham cattle. A coal seam was discovered in 1863 during the sinking of a well, though the property remained pastoral land for another one hundred years. In 1891, after the death of William Durham, the property was inherited by his sons William and Charles, who sold it to Benjamin Richards in 1894. It was sold again in 1898 to the Ridge-Badgery partnership and then resold in 1905 to the Allen-Macdonald partnership and established as a thoroughbred horse stud.

The property was then subdivided in 1908, with the Homestead and South Wambo retained by the Allen-Macdonald partnership until 1915 when ownership of the Homestead passed solely to the Macdonald family. Between this time and 1971, the primary uses of the remaining Wambo land were grazing and dairying. The Macdonald family then sold the majority of their land to the Wambo Mining Corporation in 1971, maintaining possession of the Homestead block until it was sold to John Birks in 1983. Birks resold the Homestead to the Wambo Mining Corporation in 1987 (EJE Heritage 2006:5).

5.3 Historic Registers

Historic registers are used to record items of significance at the National, State and Local government level. There are no items registered in the National Heritage Database for the Modification Project Area.

5.3.1 National Heritage Databases

The Australian Heritage Database incorporates: the National Heritage List; the Register of the National Estate and the Commonwealth Heritage List.

The National Heritage List is now the lead statutory document for the protection of heritage places considered to have national importance. This list comprises Aboriginal, natural and historic places that are of outstanding national heritage significance to Australia. Listed places are protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). There are no items within the Modification Project Area on the National Heritage List.

Prior to this the Register of the National Estate was the primary document. While the Register of the National Estate still exists it is now frozen and no longer has statutory status. The Minister is required to consider the Register when making some decisions under the EPBC Act. The Register of the National Estate does not include any heritage sites within the Modification Project Area.

The Commonwealth Heritage List comprises natural, Aboriginal and historic heritage places owned or controlled by the Commonwealth. Places on this list are also protected under the EPBC Act. There are no items within the Modification Project Area on the Commonwealth Heritage List.

5.3.2 The NSW Heritage Inventory

The NSW Heritage Inventory lists items at the NSW (State) level and/or at the local level. Items of State significance are registered by the NSW Heritage Council under the *Heritage Act 1977*. Those items are listed on the State Heritage Register as being under an Interim Heritage Order or protected under Section 136 of the NSW Heritage Act.

The Inventory also includes some heritage places of heritage significance within a LGA. These places are listed by local council under their LEP and additionally may be included on the NSW Heritage Inventory database. A search of the LEP and the NSW Heritage Inventory has indicated that there are no items listed on either the LEP or the NSW Heritage Inventory within the Modification Project Area.

5.4 Discussion and Conclusion

Research of the various heritage databases has shown that there are no listed Heritage items in the Modification Project Area.

6.0 Archaeological Field Survey

6.1 Survey Methodology

The field survey for the Modification has been undertaken in accordance with OEH guidelines for survey reporting outlined in the *Code of Practice of Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and the *Guide to investigating, assessment and reporting on cultural heritage in NSW* (OEH 2011) and included the following components:

- documentation of survey coverage;
- documentation of results; and
- documentation of significance of sites/areas to the Aboriginal community.

6.1.1 Survey Aims

The survey was undertaken in order to identify Aboriginal archaeological sites in the Modification Project Area, ground truth sites previously recorded within the Modification Project Area, determine the visible extent of artefact sites and record new sites. The survey methodology was formulated with these aims in mind and focused on landforms associated with previously identified sites, exposed ground surfaces and targeted the various landforms and vegetated areas within the Modification Project Area.

6.1.2 Field Methods

The survey was conducted on foot (pedestrian) with survey teams targeting the creek lines, then between these features across the Modification Project Area. There were four persons in each survey team walking transects approximately 7 m to 10 m apart in spurs and sloping areas, and approximately 3 m to 5 m apart in steeply sloping, densely vegetated areas. The area surveyed was mapped and recorded in accordance with landforms, the Modification Project Area boundaries, predicted subsidence boundaries, changes in survey conditions (such as visibility or ground surface exposure [GSE]) and/or other relevant considerations. Areas that had previously been undermined by longwall mining were inspected in order to view the impact of potential subsidence on the land surface in the current Modification Project Area.

The mapping of survey units was undertaken on the basis of Differential Global Positioning System (DGPS) recorded data and with reference to aerial and topographic information. The recording of survey units was undertaken using representative digital photographs and field notes which included observations of soils, GSE and visibility, vegetation cover, rock outcrops, levels of ground surface disturbance and erosion.

The field notes provide a basis for the reporting of survey coverage and calculating survey effectiveness as presented in the survey results section. It is required that any new Aboriginal cultural heritage sites identified are recorded and submitted for registration on the AHIMS database. Such recording involves the documentation of the material traces of past Aboriginal land use, including the spatial extent of sites and any other obvious physical boundaries. Aboriginal cultural heritage sites identified by RAPs may not always involve material traces and boundaries of such sites need to be mapped on the basis of information provided by the RAPs. Sites were recorded by DGPS and mapped accordingly.

6.2 Registered Aboriginal Parties

The archaeological and Aboriginal cultural heritage field survey was conducted by RPS Archaeologists Jeremy Hill and Philippa Sokol, accompanied by Peter Jaeger, Senior Environmental Advisor and Harry Egan, Environmental Advisor at Wambo.

The surveys were also attended by representatives from Cacatua Culture Consultants (also known as Carcatatua Pty Ltd), Culturally Aware, Hunter Valley Aboriginal Corporation and Ungooroo Aboriginal Corporation on the Thursday 28 May 2015; representatives from Culturally Aware, DFTV, Enterprises, Hunter Valley Aboriginal Corporation and Ungooroo Aboriginal Corporation on Friday 29 May 2015 and a representative from Ungooroo Aboriginal Corporation on Thursday 4 June 2015.

6.3 Survey Units

Landform units were described for the area surveyed (**Figure 6**). In particular, exposure and ground surface visibility (GSV) were reported to ensure comparability of survey results between different areas of the local landscape and to contextualise survey results. Areas with high visibility and exposure generally have extensive land surface disturbance, generating higher quantities of exposed archaeological material that is not *in situ*. Conversely, areas with low visibility and minimal exposure, particularly due to undisturbed native vegetation coverage, are generally more intact landscapes and thus more likely to contain *in situ* archaeological deposits, but such sites may not be as easy to identify.

Five survey units were identified in the Modification Project Area (**Figure 6**). The landforms units were:

- SU1 the gently sloping, north-east facing toe slopes to the south-west of the North Wambo Creek Diversion;
- SU2 the moderately sloping north-east facing foot slopes of Wambo Ridge to the south-west of the North Wambo Creek Diversion;
- SU3 the steeply sloping north-east facing screed slopes directly below the ridgeline of Wambo Ridge;
- SU4 the steep, narrow ridgeline of Wambo Ridge at the boundary of Wambo MOL and the Wollemi National Park at a maximum height of 380 m Australian Height Datum within the Modification Project Area; and
- SU5 the deeply incised v-shaped Stony Creek Valley.

GSE and GSV were recorded and analysed for each survey unit. GSV was recorded as a percentage range (refer **Table 6**) and sample fractions for the survey units and landforms were also calculated (as shown in **Table 7**).

Table 6 Ground Surface Visibility (GSV) Rating

GSV Rating	Description
0 – 9%	Heavy vegetation with scrub foliage, debris cover and/or dense tree cover. Ground surface not clearly visible.
10 – 29%	Moderate level of vegetation, scrub or tree cover. Small patches of soil surface visible resulting from animal tracks, erosion or blowouts. Patches of ground surface visible.
30 – 49%	Moderate levels of vegetation, scrub and/or tree cover. Moderate sized patches of soil surface visible possibly associated with animal tracks, walking tracks and erosion surfaces. Moderate to small patches across a larger section of the Modification Project Area.
50 – 59%	Moderate to low level of vegetation, tree and/or scrub. Greater amounts of areas of ground surface visible in the form of erosion scalds, recent ploughing, grading or clearing.
60 – 79%	Low levels of vegetation and scrub cover. High incidence of ground surface visible due to recent or past land-use practices such as ploughing, grading and mining. Moderate level of ground surface visibility due to sheet wash erosion, erosion scalds and erosion scours.
80 – 100%	Very low to nonexistent levels of vegetation and scrub cover. High incidence of ground surface visible due to past or recent land use practices, such as ploughing, grading and mining. Extensive erosion such as rill erosion, gilgai, sheet wash, erosion scours and scalds.

Table 7 Survey Coverage Data within Modification Project Area

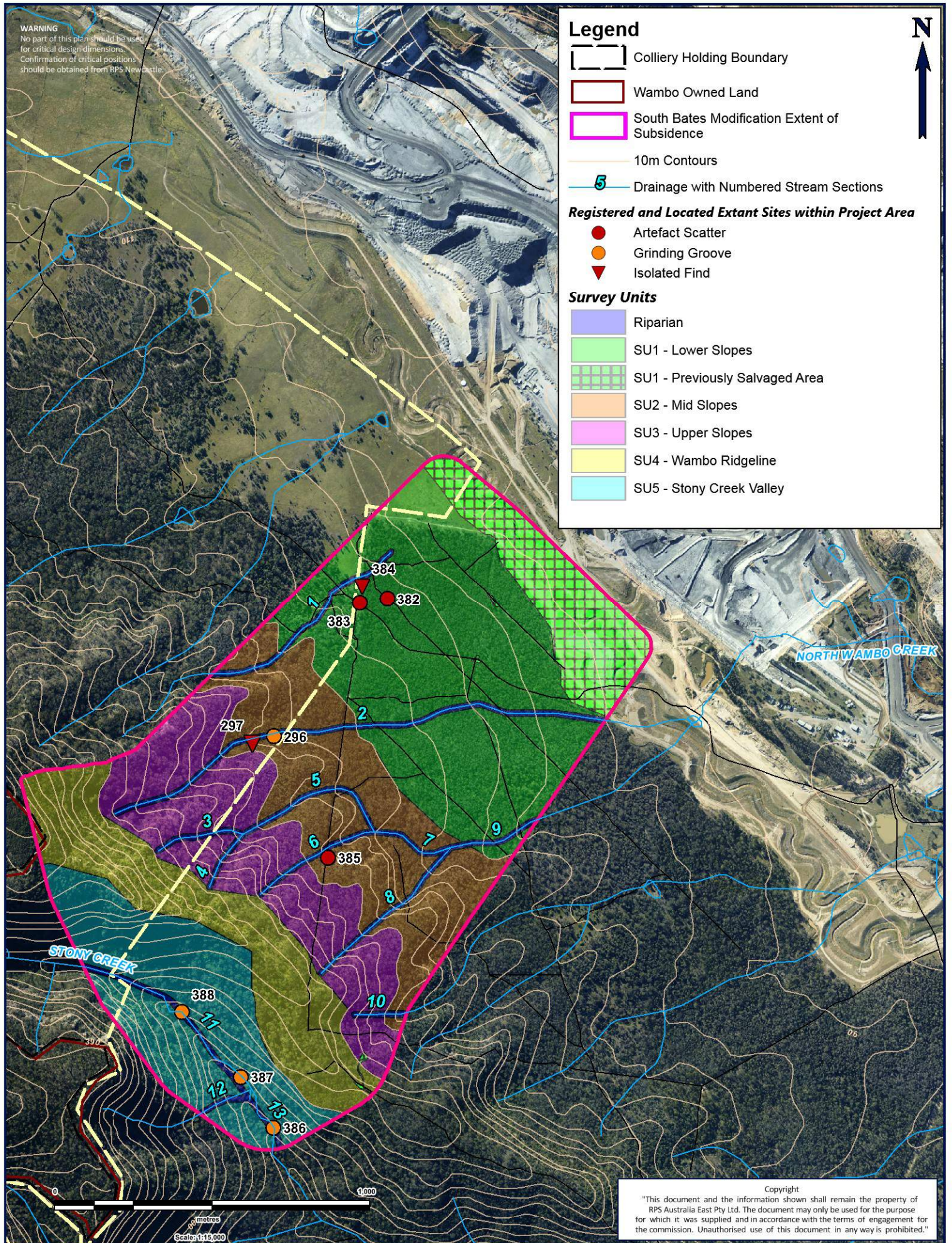
Survey Unit by Landform	Survey Unit Area (m ²)	Area Effectively Surveyed (m ²)	Visibility (%) GSV Rating	Exposure (%) GSE Rating	Effective Coverage (% of landform surveyed)	Number of Sites	Number of Objects
SU1 Gentle north-east facing toe slopes to the south-west of the North Wambo Creek Diversion	819445	655556	65	60	65	3	6 artefacts
SU2 North-east facing, moderately sloping, foot slopes of Wambo Ridge to the south-west of the North Wambo Creek Diversion	374687	262281	50	55	70	1	10 artefacts
SU3 North-east facing, steeply sloping screed mid to upper slopes to below Wambo Ridge	356849	231952	40	50	65	0	0
SU4 Wambo Ridge steeply sloping and narrow ridgeline	296792	192915	50	40	65	0	0
SU5 Stony Creek Valley with steeply sloping banks	332786	99836	40	30	30	3	6 grooves
Ephemeral creeks riparian zones	117468	70481	65	60	60	2	1 groove; 1 artefact

A summary of the Aboriginal cultural heritage sites identified in the Modification Project Area is shown in **Table 8**. Site co-ordinates were recorded with a hand held DGPS. Site cards were generated for all newly identified sites for registration on the AHIMS database. Site cards are included at **Appendix 5** of this CHIA.

Table 8 Summary of Site Locations Recorded within the Modification Project Area

AHIMS Site #	Site Name*	Zone 56 GDA94/MGA Eastings	Zone 56 GDA94/MGA Northings	Site Type	Number of Objects	Landform Unit	Survey Unit
37-5-0590	Wambo Site 296	307825	6393822	Isolated Find	6 artefacts	First Order Creek Bed, Steep Midslope	Riparian Zone (in SU2)
37-5-0591	Wambo Site 297	307758	6393803	Grinding Groove	10 artefacts	First Order Creek Bed, Steep Midslope	Riparian Zone (in SU2)
-	Wambo Site 382	308184	6394259	Artefact Scatter	0	Gently Sloping Toe Slopes	SU1
-	Wambo Site 383	308098	6394245	Artefact Scatter	0	Gently Sloping Toe Slopes	SU1
-	Wambo Site 384	308105	6394301	Isolated Find	6 grooves	Gently Sloping Toe Slopes	SU1
-	Wambo Site 385	307996	6393438	Artefact Scatter	1 groove; 1 artefact	Creek Bank, Steep Midslopes	SU2
-	Wambo Site 386	307823	6392582	Grinding Groove	-	Stony Creek Bed	SU5
-	Wambo Site 387	307721	6392742	Grinding Grooves	-	Stony Creek Bed	SU2
-	Wambo Site 388	307534	6392947	Grinding Grooves	-	Stony Creek Bed	SU5

* Please note the sites are shown on Figure 6 by Wambo site number only.



TITLE: FIGURE 6: SURVEY UNITS WITH
RECORDED SITES

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 10/07/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database
VERSION (PLAN BY): C A4 (NW-GG)

CLIENT: WAMBO COAL PTY LTD
JOB REF: 126088

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
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6.3.1 SUI South Bates Lower Slopes –Toe Slopes

This survey unit was in the northern part of the Modification Project Area (**Figure 6**) and focused on the lower slopes to the south-west of the North Wambo Creek Diversion. It was characterised by gentle north-east facing toe slopes in open woodland with some mature native trees, shrubs and grasses (Plate 1). There was no permanent water in this part of the Modification Project Area although there were two ephemeral first order tributaries of North Wambo Creek (Stream 1 & 2) and one second order tributary (Stream 9) of North Wambo Creek traversing the survey unit. The ephemeral creek lines were shallow, with narrow channels and with alluvium lining the lower reaches of the creek lines (Plate 2).

The survey unit had been highly modified and disturbed by previous farming practices including land clearing, fencing, cattle grazing and access tracks (Plate 3). There were pebbles and cobbles deposited from water runoff and several of the access tracks were severely eroded (Plate 4). Sheet wash erosion was observed, and recent storm damage (Plate 5) was evident with fallen trees and eroded soils. Vegetation was characterised by Eucalypt trees and native shrubs and grasses (Plate 6). Soils were predominantly exposed B horizon clays with some re-deposited A horizon sand, silt and small pebbles (Plate 7). GSE was 85% along the tracks and areas exposed from sheet wash erosion (Plate 8); GSE was 60% in vegetated areas. GSV was high along access tracks at 90% but was 55% in the treed areas.

Three artefact sites were identified in the survey unit. Two artefact scatters (Wambo Site 382 and Wambo Site 383) and one isolated find (Wambo Site 384) were recorded close to access tracks on the surface of the B horizon. Two mudstone flakes and a mudstone core were identified at Wambo Site 382 (Plate 9 and Plate 10), one mudstone core and one mudstone flake were identified at Wambo Site 383 (Plate 11 and Plate 12) and one red mudstone flake was found at Wambo Site 384 (Plate 13 & Plate 14). There was evidence of sheet wash erosion from water runoff in proximity to the sites.

The north-eastern part of the survey unit (**Figure 6**) had been previously inspected during surface collection in participation with the RAPs under Consent 2222 ahead of the North Wambo Creek Diversion works and upgrade of the mine access road in this area. Wambo Site 146 (AHIMS #37-5-0394) Wambo Site 147 (AHIMS #37-5-0395), Wambo Site 148 (AHIMS #37-5-0397), Wambo Site 149 (AHIMS #37-5-0399) and Wambo Site 150 (AHIMS #37-5-0401) were previously salvaged and are no longer extant. This area now forms part of the North Wambo Creek Diversion and mine access area and was therefore not re-inspected during the current field work (Plate 15).

It was considered that subsurface deposit with *in situ* artefacts was unlikely due to the extent of the disturbances in the area of the artefact sites and no areas of PAD were identified.

6.3.2 SU2 South Bates Midslopes – Foot Slopes

This survey unit encompassed the foot slope area which is midslope area between the upper slopes directly below Wambo Ridge and the gently sloping toe slopes (**Figure 6**). The survey unit was characterised by moderate north-east facing foot slopes in open woodland with mature native trees, shrubs and grasses and some areas of dense scrub (Plate 16). There were some boulders on the steeper slopes, but there were no rocks or overhangs of a size suitable for providing shelter (Plate 17). There was no permanent water in this part of the Modification Project Area although there were four ephemeral first order tributaries of North Wambo Creek (Streams 1, 2, 6 & 8) and two second order tributaries of North Wambo Creek (Streams 5 and 7) traversing the survey unit. The ephemeral creek lines were generally narrow channels (Plate 18), sections of which were lined with sandstone bedrock (Plate 19) and had sandstone boulders and sandstone sheets along the creek banks (fine grained sandstone together with conglomerate sandstone with large pebble inclusions) (Plate 20).

There were benched interlocking spurs between the north-east flowing creeks which may have provided suitable areas for temporary campsites but no artefacts were found in these areas (Plate 21). The lower banks of the incised creeks were generally steeply sloping with fluvial sands and pebbles re-deposited downstream at the break in slope. The effect of fast water flow is evident in these areas (Plate 22).

The survey unit had been highly modified and disturbed by previous farming practices including fencing, cattle grazing and access tracks (Plate 23). There were pebbles and cobbles deposited from water runoff and several of the access tracks were severely eroded (Plate 24). Recent storm damage was evident with fallen trees and eroded soils. Sheet wash erosion and subsidence from mining works at Wambo had further disturbed the surface soils. Soils were predominantly exposed B horizon clays with some re-deposited A horizon sand, silt and small pebbles. GSE was 85% along the tracks and areas exposed from sheet wash erosion; GSE was 35% in vegetated areas. GSV was high along access tracks at 85% but was 35% in the treed areas.

Two artefact sites and one grinding groove site were identified in the survey unit. One isolated find, a grey silcrete flake (Wambo Site 297) and a grinding groove on the surface of a fine grained sandstone boulder (Wambo Site 296) had been recorded in the creek bed of a narrow ephemeral tributary of North Wambo Creek (Stream 2). The grinding groove site Wambo Site 296 was located downstream of the isolated artefact Wambo Site 297 which had been found on the top of jointed sandstone rocks further upstream. This sandstone creek line (Plate 25) showed evidence of high water flow probably during storm events and prolonged rainfall and although both Wambo Sites 296 (Plate 26) and Wambo Site 297 (Plate 27) were ground truthed, only the grinding groove was able to be found. Leaf litter and storm debris hindered visibility in the area and the isolated artefact at Wambo Site 297 may have washed away. The sandstone extended upstream characterised by a deeply incised channel (Plate 28).

One artefact scatter (Wambo Site 385) was recorded close to an access track (Plate 29 & Plate 30). Four mudstone flakes, one mudstone core, one mudstone angular fragment and four silcrete flakes were identified, including one yellow silcrete flake with retouch and one red silcrete backed geometric microlith.

It was considered that subsurface deposit with *in situ* artefacts was unlikely at any of the recorded sites and no areas of PAD were identified.

6.3.3 SU3 South Bates Upper Slopes – Screed Slopes

This survey unit was situated below the Wambo Ridgeline (**Figure 6**) and was characterised by north-east facing steeply sloping screed slopes (Plate 31). The creek lines in this survey unit were v-shaped ephemeral first order creeks (Streams 2, 3, 4, 6, 8 & 10) (Plate 32) and an ephemeral second order creek (Stream 5). Loose pebbles and cobbles mixed with redeposited A horizon alluvial sand were common in this area and were generally deposited by high water flow on the surface of the clay B horizon (Plate 33). Vegetation was predominantly eucalypt trees and native shrubs and grasses. Some areas were densely wooded (Plate 34). There were rocky sandstone boulders in the upper slopes which were resistant to erosion (Plate 35). The boulders were inspected for suitable rock shelters, but none were found. Creek lines were targeted to identify whether there was any sandstone outcrops (Plate 36 – Plate 37) or bedrock (Plate 38) suitable for grinding stone artefacts and therefore whether there were any grinding grooves present. None were identified.

Mature trees were inspected but there were none that showed evidence of cultural scarring (Plate 39). A flat topped spur lay in the western part of SU3 was inspected. Vegetation was characterised by mature Eucalypts on the slopes (Plate 40) and along the spur (Plate 41). There were boulders and a thick covering of leaf litter on the steeply sloping sides of the spur (Plate 42). Disturbances included erosion from water runoff and access tracks (Plate 43). The landform in this survey unit was characterised by steep slopes dropping to the boulder lined creeks below (Plate 44).

Sheet wash erosion had further disturbed the surface soils. Soils were predominantly exposed B horizon clays with some re-deposited A horizon sand, silt and small pebbles. GSE was 85% along the tracks and areas exposed from sheet wash erosion; GSE was 30% in vegetated areas. GSV was high along access tracks at 80% but was 30% in the treed areas. No Aboriginal sites were identified and it was considered that subsurface deposit with *in situ* artefacts was unlikely on these eroded and screed slopes. No areas of PAD were identified.

No Aboriginal sites were identified in this area.

6.3.4 SU4 Wambo Ridge Ridgeline

This survey unit encompassed the narrow north-west to south-east trending ridge at the top of Wambo Ridge (**Figure 6**) (Plate 45). The ridgeline was narrow and moderately sloping along the top before becoming impassable due to jagged sandstone outcrop. The ridgeline and slopes were forested (Plate 46) and the slopes on either side were screed and sloped steeply (Plate 46 – Plate 48). Boulders, cobbles and pebbles were evident on the surface of the soil (Plate 49). The south-west facing slope descending to Stony Creek was covered by thick vegetation (Plate 50).

Wambo Site 89 (AHIMS #37-5-0476) (Plate 51) and Wambo Site 90 (AHIMS #37-5-0477) (Plate 52) had been previously salvaged. Wambo Site 89 was a moderate sized artefact scatter comprising 18 artefacts but no artefacts were found during the previous surface collection due to the extensive disturbance to the ground surface. One artefact was found at Wambo Site 90 and it was salvaged at that time. Visibility was affected by dense leaf litter in the area of Wambo Site 90 (Plate 53).

Disturbances included erosion from water runoff and use of the access track. The access track narrowed, ascending through large sandstone boulders at the western part of the ridgeline (Plate 54) with dense vegetation (Plate 55) until the route was blocked by massive sandstone boulders (Plate 56).

Soils were predominantly exposed B horizon clays with some re-deposited A horizon sand, silt and small pebbles. Sheet wash erosion had further disturbed the surface soils. The area was open forest. GSE was 75% along the track and areas exposed from sheet wash erosion; GSE was 30% in vegetated areas. GSV was high along access track at 80% but was 30% in the vegetated areas.

This ridgeline was likely used for foraging with Aboriginal sites identified previously along the length of the ridgeline to the east likely providing an access route between the ridgeline area and the Stony Creek, South Wambo Creek and Wollombi Brook catchments outside of the Modification Project Area. The ridgeline provided vantage points to the south-west and north-east (Plate 57 & Plate 58). Macrozamia plants were identified in the more densely vegetated areas between the ridgeline and Stony Creek (Plate 59 and Plate 60). Xanthorrhoea trees were common in the upper parts of the Wambo Ridge and the ridgeline and Stony Creek area and would have likely provided useful resources.

No new Aboriginal sites were identified and it was considered that subsurface deposit with *in situ* artefacts was unlikely and no areas of PAD were identified.

6.3.5 SU5 Stony Creek Valley

Stony Creek is a high order intermittent water source in the south-western part of the Modification Project Area (**Figure 6**). The area is characterised by a v-shaped valley with steep slopes on either side; the south-west facing slope extends up to the Wambo Ridgeline and the north-east facing slope extends into the Wollemi National Park. The area was accessed from a pre-existing access track approximately 330 m from the boundary of the Modification Project Area (Plate 61 and Plate 62). Sandstone conglomerate boulders

lined the banks in the middle reaches of Stony Creek (Plate 63) and fine grained jointed sandstone was also present in the creek bed.

Natural waterholes occurred along the length of Stony Creek (Plate 64). Wambo Site 386 was a single grinding groove on the surface of fine grained sandstone rock in the creek bed (Plate 65) with sandstone boulders lining the creek banks (Plate 66). The grinding groove site was located in close proximity to a natural waterhole and was below the confluence of Stony Creek and an indistinct ephemeral first order tributary (Plate 67 and Plate 68). Densely wooded, steeply sloping lower creek banks with boulders and cobbles in bed of Stony Creek characterised this part of Stony Creek (Plate 69). There was dense vegetation on both sides of the incised creek line (Plate 70 and Plate 71) and sandstone boulders were evident along the creek bed (Plate 72).

Wambo Sites 387 was upstream of the confluence with an indistinct ephemeral first order tributary (Plate 73). There were three grooves at the site but only two were above the surface of the water (Plate 74 to Plate 76). The grooves were on the surface of jointed sandstone platforms (Plate 77 and Plate 78). The south-west facing slope in this area was extremely steep with boulders scattered across the slope and unmarked drainage lines marked by cascading rocks (Plate 79). The upper slope was characterised by mature Eucalypts and low lying ground cover including *Macrozamia* plants (Plate 80). The mid to upper reaches of Stony Creek were characterised by massive sandstone conglomerate boulders with generally flat lying fine grained sandstone bedrock (Plate 81 to Plate 83).

Wambo Site 388 was located in an area of flat lying sheeted fine grained sandstone (Plate 84) with some conglomerate sandstone boulders also in the creek bed. Some of the sandstone was jointed (Plate 85). The site had two grinding grooves adjacent to each other on the surface of a fine grained sandstone platform (Plate 86 to Plate 88). Tumbled rocks blocked access along Stony Creek to the north-west of Wambo Site 388 (Plate 89) and the vegetation was extremely dense (Plate 90).

GSE was 45% along the creek line and 15 to 20% in the remainder of the survey unit. GSV was moderate along creek line at 45% but was 20% in the vegetated areas.

Three grinding groove sites: Wambo Site 386 (one groove), Wambo Site 387 (three grooves) and Wambo Site 388 (two grooves) were identified along the sandstone lined creek bed of Stony Creek. There were no artefacts present and it was considered that subsurface deposit with *in situ* artefacts was unlikely. No areas of PAD were identified.

6.4 Survey Results

During the course of the May and June 2015 field survey, previously recorded sites within the Modification Project Area were ground truthed and new sites were identified. The Modification Project Area was divided into five survey units. Nine extant Aboriginal sites were recorded in the Modification Project Area. In addition, five artefact sites had been previously salvaged in the north-eastern part of the Modification Project Area under Consent 2222 in participation with the RAPs in advance of the North Wambo Creek Diversion and access road upgrade works. Two artefact sites had also been previously salvaged along the ridgeline to avoid potential impacts from previously approved works. The eighteen artefacts at Wambo Site 89 were not recovered, but the isolated find at Wambo Site 90 was recovered.

6.4.1 Summary of Survey Units

The north-east facing ridgelines are difficult to access and it is considered were unlikely to have been used for regular access through the mountains by Aboriginal people, but they may have been used for hunting and resources such as *Macrozamia* and *Xanthorrhoea* plants.

The upper slope areas are covered in conglomerate sandstone boulders and stony scree, the midslope areas are moderately sloping and are incised by a number of ephemeral creek lines. These areas are densely treed. The foot and toe slope areas are gently sloping and easily accessible and are generally cleared lands from previous farming practices. There is evidence of extensive flooding of the major creek lines in the region probably during high water flow events when the water spills down the creek lines. Pebbles and cobbles occur on the surface as lag deposit in such areas. Much of the Modification Project Area shows evidence of sheet wash erosion which has laid down extensive alluvial deposits.

6.4.2 Sites Recorded within the Modification Project Area

Artefact sites were generally located on the mid and lower slopes. There were seven new Aboriginal sites identified in the Modification Project Area in addition to the previously recorded Aboriginal sites. Artefacts were scattered across the sites which would likely be due to the effects of erosion processes which were extensive in areas of high water flow. The isolated artefact was not re-identified at Wambo Site 297, but there was evidence of high water flow from a recent storm event and the artefact may have washed downstream. The grinding groove on the surface of a boulder was found at Wambo Site 297. Three additional grinding groove sites were identified along Stony Creek. A number of sites were located on, or very close to, vehicle access ways. The majority of the artefact sites in the area were on the surface of the exposed B horizon and had been affected by sheet wash erosion and trampling by cattle. The area had also been disturbed by previous farming practices. Aboriginal sites were concentrated in the north-east and south on elevated landforms.

Of the nine extant sites identified in the Modification Project Area, three of the grinding groove sites (Wambo Sites 386, 387 and 388) were recorded in the sandstone bedrock along Stony Creek and the other grinding groove site (Wambo Site 296) was recorded on the surface of a small boulder on an ephemeral first order creek line midslope in the north-western part of the Modification Project Area. There was an isolated find (Wambo Site 297) recorded upstream from the grinding groove boulder. The other isolated find (Wambo Site 384) was in the gently sloping lower slopes in the northern part of the Modification Project Area. Two of the artefact scatters (Wambo Site 382 and Wambo Site 383) were also recorded in these gently sloping lower slopes in the northern part of the Modification Project Area. The other artefact scatter (Wambo Site 385) was recorded on the upper bank of a first order ephemeral creek line midslope in the central part of the Modification Project Area.

The site patterning was distinctive: artefact sites were all located on the lower and midslope areas and grinding grooves were in the sandstone rocks in the creek beds. The grooves were of a type seen in the local area. The north-eastern part of the Modification Project Area was in a previously modified and disturbed area with evidence of previous farming activities including land clearing, fencing and characterised by grassed paddocks that had been revegetated and were now part of the remnant woodland enhancement area.

Site cards were generated for the newly identified sites and submitted to the OEH for inclusion on their database. Site cards for all extant sites located within the Modification Project Area are included in **Appendix 5**. Sites identified in the survey area are described in **Table 8**.

6.5 Discussion of Survey Results

Review of previous archaeological investigations in the region of the Modification Project Area and Aboriginal site predictive modelling are used to interpret the regional archaeological record. The analysis of this data indicated that artefact scatters and isolated finds, followed by grinding groove sites were the most likely site types to be present in the Modification Project Area. Artefact scatters and isolated finds were identified within 200 m of watercourses on the lower and midslopes, which is in line with the predictive model.

Grinding groove sites were found along Stony Creek as predicted, and one grinding groove site was along an ephemeral tributary that would have water flowing during peak rainfall events. It is considered that the lack of scar trees in the survey area is likely due to the lack of suitable trees and previous land use practices.

The dominant raw material used to manufacture the stone artefacts was mudstone followed by silcrete. No other raw materials were found at the newly identified sites. Artefacts identified included one core and several flakes including a backed geometric microlith. These results are in line with the predictive model.

The majority of the Modification Project Area was characterised by the north-east facing slopes below Wambo Ridge escarpment and this area was considered unlikely to have intact sub-surface archaeological deposit. The remainder of the Modification Project Area incorporated the Stony Creek valley. Grinding groove sites were along the creek beds of Stony Creek and an ephemeral tributary of North Wambo Creek and artefact scatters were on the lower and midslope areas in line with the predictive model. These artefact sites were exposed on the ground surface and were considered to have no stratigraphic integrity.

7.0 Significance Assessment

In order to develop appropriate heritage management outcomes, it is necessary for the significance of Aboriginal sites or areas of archaeological sensitivity to be assessed. Aboriginal heritage can be significant for cultural and/or scientific reasons. Aboriginal people are the best placed to assess cultural significance and are therefore consulted in the Aboriginal heritage management process. Scientific (archaeological) significance is assessed according to scientific criteria outlined in OEH heritage guidelines.

7.1 Cultural Significance Criteria and Assessment

An assessment of cultural significance incorporates a range of values which may vary for different individual groups and may relate to both the natural and cultural characteristics of places or sites. Cultural significance and Aboriginal cultural views can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system.

The RAPs were asked to contribute their cultural knowledge on the Modification Project Area, and the Aboriginal heritage sites (and/or places) within it, at all stages during the consultation process, including during review of the Proposed Methodology and during information sessions. RAPs were also encouraged to provide input to WCPL or RPS at any stage during the consultation process.

In addition, verbal comment was also requested from the RAPs participating in the survey. Cultural significance of the Modification Project Area was discussed with Aboriginal representatives during the May and June 2015 survey. The RAPs present stated that the Hunter Valley region is culturally significant to them. They stated that the artefact sites within the Modification Project Area were of cultural significance and related to other sites in the Wambo area; particularly to the other sites in the North Wambo and Stony Creek areas. They considered the banks of the creeks and natural connecting ridgelines to have specific cultural significance as these areas would have been suitable for camping and procurement of food and water. Grinding groove sites were of high cultural significance.

The RAPs indicated they were satisfied with the extent of the survey; the ground truthing of previously identified sites and the methodology used to record newly identified sites. They expressed their wishes that wherever possible that Aboriginal objects remain on the land in the location they were found, but that Wambo should regularly monitor the sites and ensure that there are no impacts to the Aboriginal objects at the sites. Artefacts should only be salvaged if impact to the artefact site cannot be avoided. If artefacts are likely to be impacted by vehicular access or the artefacts lost by potential subsidence, then they should they be salvaged and placed in the temporary keeping place for repatriation in the future. Further details are included in the Aboriginal consultation log (**Appendix 1**).

7.2 Archaeological Significance Criteria

Archaeological significance, also referred to as scientific significance, is determined by assessing an Aboriginal heritage site or area according to archaeological criteria. The assessment of archaeological significance is used to develop appropriate heritage management and impact mitigation strategies. Criteria for archaeological significance have been developed in accordance with the principals of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b), managed by OEH. The following archaeological significance criteria have been used: rarity, representativeness, education potential and research potential. These terms are defined in **Table 9**.

The archaeological significance criteria are usually assessed on two scales: local and regional. In exceptional circumstances however, state significance may also be identified. Archaeological significance criteria is assessed in three levels to which scores are assigned; low (score=1), moderate (score=2) and high (score=3).

Table 9 Archaeological Significance Criteria

Criteria	Description
Rarity	This criterion examines the frequency of the identified site types with others previously recorded in the local or regional landscape.
Representativeness	All sites are representative of a site type, however, some sites may be in better condition, or demonstrate more clearly a particular site type. Representativeness is based on the understanding of extant sites in the local or regional landscape and the purpose of this criterion is to ensure a representative sample of sites area conserved for future generations.
Education Potential	This refers to whether the site has the potential to contribute to the public understanding of Aboriginal cultural heritage. These sites are often well preserved and have recognisable features which would assist in teaching.
Research Potential	This criterion is used to identify whether a site has the potential to contribute new information to the interpretation of Aboriginal occupation in the area.

A combination of these scores then provides enables an overall significance ranking of the site to be determined:

- Low significance: 4-6.
- Moderate significance: 7-9.
- High significance: 10-12.

7.3 Assessment of Archaeological Significance

The archaeological significance of the identified Aboriginal sites within the Modification Project Area has been assessed and is summarised in **Table 10**.

Wambo Site 296 (AHIMS #37-5-0590) was a single elongate groove on the surface of a sandstone boulder in the bed of an ephemeral tributary of North Wambo Creek. The steeply sloping ephemeral creek line was lined with jointed sandstone bedrock. Water flow during rain events would have been strong down the creek line. The creek line may have been used for access to reach the ridgeline above. Wambo Site 296 has been ranked as being of moderate archaeological significance at a local level but is considered to be of low archaeological significance at a regional level.

Wambo Site 297 (AHIMS #37-5-0591) was an isolated grey silcrete flake artefact and was located upslope and to the west of the grinding groove site Wambo Site 296 but along the same steeply sloping ephemeral creek. The artefact was not relocated during the present survey. Water flow during rain events would have been strong down the creek line. This isolated find is of some significance in relation to the nearby grinding groove but as the artefact is an isolate and in any case is no longer evident (Section 6.3.2); the site has been ranked as being of low archaeological significance on both a regional and a local level.

Wambo Site 384 is an isolated find in a disturbed context. As the artefact is an isolate and not *in situ*, the site has been ranked as being of low archaeological significance on both a regional and a local level.

Wambo Sites 382, 383 and 385 are artefact scatters in highly disturbed contexts. As the artefacts scatters are in disturbed contexts and not *in situ* the sites have been ranked as being of low archaeological significance on both a regional and a local level.

Table 10 Assessed Levels of Archaeological Significance for Aboriginal Sites in the Modification Project Area

Site	Site Type	Significance scale	Rarity	Representativeness	Education Potential	Research Potential	Rank Total Overall Score	Overall Archaeological Significance
Wambo Site 296 AHIMS 37-5-0590	Grinding Groove	Local	2	2	1	2	7	Moderate
		Regional	2	2	1	1	6	Low
Wambo Site 297 AHIMS 37-5-0591	Isolated Find	Local	1	1	1	1	4	Low
		Regional	1	1	1	1	4	Low
Wambo Site 382	Artefact Scatter	Local	1	1	1	1	4	Low
		Regional	1	1	1	1	4	Low
Wambo Site 383	Artefact Scatter	Local	1	1	1	1	4	Low
		Regional	1	1	1	1	4	Low
Wambo Site 384	Isolated Find	Local	1	1	1	1	4	Low
		Regional	1	1	1	1	4	Low
Wambo Site 385	Artefact Scatter	Local	1	1	1	1	4	Low
		Regional	1	1	1	1	4	Low
Wambo Site 386	Grinding Groove	Local	2	2	1	2	7	Moderate
		Regional	2	2	1	1	6	Low
Wambo Site 387	Grinding Grooves	Local	2	2	1	2	7	Moderate
		Regional	2	2	1	1	6	Low
Wambo Site 388	Grinding Grooves	Local	2	2	1	2	7	Moderate
		Regional	2	2	1	1	6	Low

Three of the grinding groove sites were identified in the sandstone bedrock of a high order stream Stony Creek. The valley opens out further downstream to the east and outside of the Modification Project Area with open campsites along the northern creek bank. Thus the mid to upper reaches of Stony Creek may have been used to obtain food and other resources. The Wambo Site 386 was a single grinding groove at the edge of a water filled depression characteristic of u-shaped grooves in the local area; Wambo Site 387 was on a rock platform with three grinding grooves; and Wambo Site 388 was two grinding grooves on jointed sandstone bedrock. These grinding groove sites were ranked as being of moderate archaeological significance at a local level and low archaeological significance at a regional level. The three sites were located in the steep sided middle reaches of Stony Creek in an area that was difficult to access.

Artefact sites showing evidence of Aboriginal occupation of the Stony Creek area were evident along the northern bank and broad lower reaches of Stony Creek directly to the east of the Modification Project Area and the area containing the grinding grooves. Several sites had also been identified along the length of the ridgeline that lies above and parallel to Stony Creek and which was likely used to access the valley with its rich resources to the east. Only two of the sites along the ridgeline were in the Modification Project Area.

The three artefact scatters and two isolated finds that are in the Modification Project Area are in highly disturbed contexts and were considered as having low archaeological significance at both a local and a regional level. The four grinding groove sites were considered of moderate archaeological significance at a local level but of low significance at a regional level.

The RAPs requested that the CHIA report acknowledge that all Aboriginal sites and objects are of cultural significance and of importance to the Aboriginal community.

Opportunity to comment on the cultural significance (social, historical and aesthetic values) of the site and the cultural significance of the Modification Project Area in general was provided to the RAPs during the field surveys and during review of the draft CHIA.

8.0 Impact Assessment and Mitigation

This section provides an assessment of the Modification in relation to Aboriginal heritage. Conservation of Aboriginal sites and areas of archaeological sensitivity is the preferred heritage outcome. However, other mitigation options have been developed to manage and mitigate potential impacts from the Modification, and are discussed in the following subsections.

The potential impacts of the Modification on Aboriginal sites include subsidence effects and direct disturbance. Direct disturbance in the Modification Project Area is limited to impacts associated with vehicle movements and subsidence remediation works, as required. Vehicular movements will be limited to those necessary for monitoring and general site maintenance activities. If required, the remediation works will be located to minimise impacts on extant Aboriginal cultural heritage and will be subject to relevant permits being obtained.

RAPs were given the opportunity to inspect areas affected by subsidence in order to understand the effects potential subsidence might have on the integrity of Aboriginal sites in the current Modification Project Area. It was noted by the RAPs present that artefacts could be subject to vertical downward movements. Artefact sites could also be disturbed if they were beside or on access roads.

Seven newly identified Aboriginal sites were recorded within the Modification Project Area, which were not located during previous survey efforts. Three artefact scatters and one isolated find are located on the north-east facing slopes within the existing Consent 2222 boundary. Three grinding groove sites are located along Stony Creek in an area already approved for subsidence impacts associated with the approved SBUM. These sites are within the existing Consent 2222 boundary. One grinding groove site and one isolated find had been previously recorded and are within the Modification Project Area, but, outside of the existing Consent 2222 boundary.

A variation to the existing Consent 2222 is required to incorporate the extent of subsidence associated with the Modification. This would include any Aboriginal sites located within the Modification Project Area, but that are outside the existing Consent 2222 boundary (Wambo Site 296 [grinding groove site] and Wambo Site 297 [isolated artefact]). The newly identified sites (Wambo Sites 382, 383, 385 [artefact scatters], Wambo Site 384 [isolated find] and Wambo Sites 386, 387 and 388 [grinding grooves]) are located within the existing Consent 2222 boundary.

8.1 Additional Subsidence Impacts

Subsidence estimates for the Modification Project Area (including specific predictions for Aboriginal cultural heritage sites) have been provided by Mine Subsidence Engineering Consultants (MSEC 2015). The extraction of coal via longwall mining methods associated with the Modification may result in indirect impacts to Aboriginal sites and objects through additional subsidence. However, it is important to note that subsidence is already approved for SBUM, and therefore by default, impact to Aboriginal objects within the Modification Project Area that overlaps with the SBUM approval is allowed for in Consent 2222.

The subsidence values provided by MSEC (2015) are based on the extraction of both the approved SBUM longwalls (Longwalls 11 to 13) in the Whybrow Seam and the newly proposed longwalls in the Wambo Seam (Longwalls 14 to 16) (i.e. the Modification). The Modification Project Area will be subject to an Extraction Plan which will be implemented prior to the proposed works being undertaken.

The newly identified sites within the Modification Project Area (i.e. Wambo Sites 382, 383, 384, 385, 386, 387 and 388) were not located during previous surveys and therefore have not been assessed in previous subsidence assessments reports, including the assessment for the approved SBUM (G.E. Holt & Associates

Pty Ltd 2003). Although these Aboriginal sites are located within an area approved for subsidence impacts associated with the approved SBUM and are also captured within the boundary of Consent 2222, these newly identified Aboriginal sites have been the subject of a detailed subsidence impact assessment (MSEC 2015) as part of the Modification. Subsidence predictions for each of the Aboriginal sites have been assessed and presented in MSEC (2015).

As the potential impacts of the Modification are associated with additional subsidence, the type of potential harm to the Aboriginal sites is considered to be indirect. The identified artefact sites within the Modification Project Area are on the surface of the clay B horizon in highly disturbed contexts and are not *in situ*. It was considered that there was no potential for archaeological deposits subsurface at these sites. With respect to artefact sites additional subsidence has the potential to alter the ground surface, but, is unlikely to damage the artefacts themselves. The potential harm to grinding grooves may involve the cracking of the sandstone bedrock, which could crack the grooves where such cracking occurs coincident with the grooves themselves.

The predicted maximum incremental changes in subsidence resulting from the Modification on Aboriginal sites within the Modification Project Area ranged from <20 millimetres (mm) to 2,100 mm vertical subsidence; from <0.5 millimetres per metre (mm/m) to 20 mm/m tilt; from 0.0 km⁻¹ to 2.0 km⁻¹ hogging curvature; and from 0.0 km⁻¹ to 0.5 km⁻¹ sagging curvature (MSEC 2015: 61-63 & Table D.01). The subsidence values vary and are significantly lower for some of the Aboriginal sites than for others within the Modification Project Area.

MSEC (2015:62) considered that it is *unlikely* that the artefact sites (artefact scatters and isolated finds) in the Modification Project Area, namely Wambo Sites 297, 382, 383, 384 and 385, would suffer adverse impacts from mining induced tilts. Mining induced curvatures and strains could result in surface cracking in the vicinity of the artefact scatters and isolated finds (which are located directly above the proposed longwalls). However, MSEC (2015: 62) considered that it was *unlikely*, that the stone artefacts themselves would be adversely impacted by the surface cracking, but, the stone artefacts would *likely* be affected by vertical downward movement. Artefact sites that may be affected by subsidence should be collected where practical under Consent 2222 prior to extraction occurring. Wambo Site 297, an isolated find, is outside of the current Consent 2222 boundary and a variation to the existing Consent 2222 boundary is therefore necessary.

Table 11 provides the predicted subsidence movements at each Aboriginal cultural heritage site identified within the Modification Project Area (MSEC, 2015). Based upon the subsidence predictions presented in the Subsidence Assessment for the Modification (MSEC, 2015) (extract provided in **Appendix 8**), and as shown in **Table 11** below, it is considered that the potential for additional adverse impacts (as a result of the Modification) on Aboriginal heritage sites within the Modification Project area ranges from very unlikely to possible (i.e. greater than 25%). However, as described above, while the potential for impacts would increase as a result of the Modification, adverse impacts would still be considered very unlikely to possible based on the approved layout at the SBUM.

Table 11 Maximum Predicted Subsidence at the Aboriginal Sites within the Modification Area (MSEC 2015) and Type of Potential Impact

Site ID Code	Site Name	Site Type	Predicted Total Subsidence based on the Approved Layout (mm) ¹	Incremental Change in Subsidence due to the Proposed Modification (mm) ¹	Incremental Change in Tilt due to the Proposed Modification (mm/m) ¹	Potential Impact to Aboriginal Objects (MSEC 2015) ¹	Description of Possible Impact
37-5-0590	Wambo Site 296	Grinding Groove	1600	2000	20	Unlikely	Fracturing and buckling of bedrock in the vicinity of the sandstone boulder - cracking of grooves
37-5-0591	Wambo Site 297	Isolated Find	800	1500	15	Unlikely	Vertical downward movement of artefacts
-	Wambo Site 382	Artefact Scatter	1900	2100	20	Unlikely	Vertical downward movement of artefacts
-	Wambo Site 383	Artefact Scatter	850	850	20	Unlikely	Vertical downward movement of artefacts
-	Wambo Site 384	Isolated Find	250	400	10	Unlikely	Vertical downward movement of artefacts
-	Wambo Site 385	Artefact Scatter	1200	1700	15	Unlikely	Vertical downward movement of artefacts
-	Wambo Site 386	Grinding Groove	<20	<20	<0.5	Very unlikely	Fracturing of bedrock - cracking of grooves
-	Wambo Site 387	Grinding Groove	1000	500	10	Possible (>25%)	Fracturing and buckling of bedrock - cracking of grooves
-	Wambo Site 388	Grinding Groove	150	200	3	Unlikely	Fracturing of bedrock - cracking of grooves

¹ Source: MSEC (2015).

The subsidence predictions for the Aboriginal heritage sites within the Modification Project Area prepared by MSEC (2015) are described below. Potential harm to the sites will be prevented by implementing the mitigation measures outlined in Section 8.4.

There are four grinding groove sites in the Modification Project Area. Three are situated on the surface flat, jointed sandstone bedrock in Stony Creek (Wambo Sites 386, 387 and 388) and located in the southern part

of the Modification Project Area. One grinding groove (Wambo Site 296) had been previously identified midslope on the surface of a sandstone boulder atop outcropping sandstone in the bed of an ephemeral tributary of North Wambo Creek in the north-western part of the Modification Project Area.

MSEC (2015: 61-63) states that: *"Site 296 is located directly above the proposed WMLW14 and Site 387 is located directly above the commencing end of the proposed WMLW16. Both these sites are also located above the approved longwalls in the overlying Whybrow Seam. The maximum predicted total curvatures for these sites are 0.6 km^{-1} hogging and 1.0 km^{-1} sagging, which represent minimum radii of curvatures of 1.7 kilometres and 1 kilometre, respectively. It is likely that fracturing and buckling of the bedrock would develop in the vicinity of Sites 296 and 387 due to mining in the Whybrow and Wambo Seams.*

The site investigation (RPS 2015) identified that the grinding groove at Site 296 is located on a small boulder within the stream alignment. It is considered unlikely that fracturing would occur at this grinding groove as it is located next to an unrestrained edge of the boulder. The potential for adverse impacts on Site 296 therefore has been assessed as unlikely. The potential for impact at this site due to the mining of the proposed WMLW14 to WMLW16 is considered to be similar to the potential for impact due to the mining of the approved WYLW11 to WYLW13, i.e. does not change the risk category of the potential impacts.

The grinding groove at Site 387 is located on a rock platform. It is difficult to assess the likelihood of impact on the site as there are many factors which cannot be quantified, such as the in situ stress, inclusions and existing weaknesses with the bedrock. The potential for adverse impacts on Site 387 has been assessed as possible (i.e. greater than 25 %). The potential for impact at this site due to the mining of the proposed the proposed WMLW14 to WMLW16 is considered to be similar to the potential for impact due to the mining of the approved WYLW11 to WYLW13, i.e. does not change the risk category of the potential impacts.

Site 388 is located 60 metres south-west of the commencing end of the proposed WMLW15 and immediately adjacent to the commencing end of the approved WYLW12. The maximum predicted total curvatures for this site are 0.1 km^{-1} hogging and 0.02 km^{-1} sagging, which represent minimum radii of curvatures of 10 kilometres and 50 kilometres, respectively. It is possible that fracturing of the bedrock could develop in the vicinity of this site due to mining in the Whybrow Seam, with further fracturing due to mining in the Wambo Seam. The potential for adverse impacts on Site 388 has been assessed as unlikely.

Site 386 is located 90 metres south of the commencing end of the proposed WMLW16 and 70 metres south of the commencing end of the approved WYLW13. The maximum predicted total curvatures for this site are less than 0.01 km^{-1} hogging and sagging, which represents a minimum radius of curvature greater than 100 kilometres. It is unlikely that fracturing of the bedrock would develop in the vicinity of this site due to mining in both the Whybrow and Wambo Seams. The potential for adverse impacts on Site 386 has been assessed as very unlikely.

The potential for impacts on Sites 386 and 388 only slightly increase, as a result of the proposed modification, as these sites are located outside the extents of the proposed longwalls. The potential for adverse impacts would still be considered unlikely for Site 388 and very unlikely for Site 386 based on the Approved Layout, i.e. does not change the risk category of the potential impacts" (MSEC 2015:61-63 & D01).

8.1.1 Subsidence Impact Summary

In summary, the results of the Subsidence Assessment prepared by MSEC 2015 are shown in **Table 12** below.

Table 12 Predicted Subsidence at the Aboriginal Sites within the Modification Project Area (MSEC 2015) and Degree of Potential Impact

Wambo Site Number	Site Type/Description	Count	MSEC Assessed Impact	Chance of Impact to Aboriginal Object	Change in Risk Category as a Result of the Modification
296	Grinding Groove on boulder	Single groove	Unlikely	Low	No change
297	Isolated Find	Single artefact	Unlikely	Low	No change
382	Artefact Scatter	Three artefacts	Unlikely	Low	No change
383	Artefact Scatter	Two artefacts	Unlikely	Low	No change
384	Isolated Find	Single artefact	Unlikely	Low	No change
385	Artefact Scatter	Ten Artefacts	Unlikely	Low	No change
386	Grinding Groove	Single groove	Very Unlikely	Low	No change
387	Grinding Groove	Three grooves	Possible >25%	Moderate-High	No change
388	Grinding Groove	Two grooves	Unlikely	Low	No change

Wambo Sites 386 and 388 are located outside of the extents of the proposed longwalls. As such MSEC (2015: 63) considers that the potential for impacts on Wambo Sites 386 and 388 are *very unlikely and unlikely* respectively (i.e. the potential for adverse impact is low), as they consider it is unlikely that fracturing of the bedrock would develop from either the Approved Layout or the Modified Layout.

MSEC (2015:63) stated that it is *likely* that fracturing and buckling of the bedrock in the vicinity of Wambo Site 387 due to mining in the Whybrow and Wambo Seams (MSEC 2015: 63) and therefore the potential for adverse impacts on Wambo Site 387 has been assessed as *possible* (i.e. greater than 25 %) (MSEC 2015: 63). Adverse impacts are considered possible (i.e. greater than 25 %) based on Approved Layout (i.e. mining in the Whybrow Seam only) and MSEC considers that there is a similar risk with mining the additional Wambo Seam (i.e. does not change the risk category of the potential impacts). Thus the potential for adverse impacts is considered to be moderate-high.

MSEC (2015: 63) notes that the potential for impacts on Wambo Site 296 is *unlikely* given that the groove is located on a boulder rather than the bedrock. MSEC (2015: 63) predicted that based on the Approved Layout and the Modified Layout at the SBUM the risk of impact with both the Whybrow and Wambo Seams being mined is *unlikely* (i.e. chance of substantial impact is low). Wambo Site 296 is outside of the current Consent 2222 boundary and a variation to the existing Consent 2222 boundary is required to cover it.

MSEC (2015:62) considered that it is *unlikely* that the artefact sites (artefact scatters and isolated finds) in the Modification Project Area, would suffer adverse impacts from mining induced tilts. MSEC (2015: 62) also considered that it was *unlikely* that the stone artefacts themselves would be adversely impacted by the surface cracking.

There are no extant sites within the Modification Project Area pertaining to the North Wambo Creek Diversion. The Wollemi National Park is generally predicted to experience less than 20 mm vertical subsidence resulting from the extraction of the proposed longwalls. It has been considered unlikely by MSEC that there will be any adverse impacts on the Wollemi National Park resulting from the Modification (MSEC 2015: 37-49). No archaeological survey was conducted in this part of Modification Project Area.

8.2 Potential Surface Disturbance Impacts

Although the potential impacts associated with the Modification are in relation to subsidence, there is also the potential for small areas within the Modification Project Area to be affected by surface disturbance associated with vehicular movements, monitoring and subsidence remediation works.

Vehicular movements would be limited to those required for monitoring and general site maintenance activities. If required, the remediation works would be located to minimise impacts on Aboriginal cultural heritage and would be subject to relevant permits being obtained.

8.3 Cumulative Impact Assessment

The purpose of cumulative impact assessment is to identify how a project's impacts compare with overall impacts in an area. The cumulative impact assessment process aims to *"take the longer broader view to identify the possible total effect of decisions about a number of seemingly isolated projects"* (Thomas 2001:246).

The cumulative impact assessment should consider the *"nature and extent of the Aboriginal object or place proposed to be harmed in relation to other identified sites in the region"* (OEH 2011:13). The OEH guidelines do not specify a methodology for conducting cumulative impact assessments.

8.3.1 Potential Cumulative Impacts on Surface Artefact Sites

Extensive archaeological surveys have been conducted within Wambo mine owned land and the Colliery Holding Boundary (including the Modification Project Area and surrounds) and therefore the archaeological resource has been thoroughly documented. Of the newly identified surface artefact sites within the Modification Project Area, their composition and extent is similar to those previously recorded and none are of high archaeological significance.

The Hunter Valley, like many places in Australia, is host to thousands of artefact sites spread across its 29,145 km². There are potentially over 1,000 artefact surface sites within a 10 x 10 km area surrounding the Modification Project Area. Consequently the potential impact to five surface artefact sites assessed as being of low local and low regional archaeological significance (**Table 10**) does not constitute a significant or greater level of cumulative impact.

8.3.2 Potential Cumulative Impacts on Grinding Grooves Sites

While the Wambo area is approximately 11,050 ha, the Modification Project Area only comprises approximately 230 ha and therefore comprises less than 2% of the overall Wambo area. The number and significance of the grinding groove sites in the Wambo area are outlined in **Table 13**.

There are 19 known grinding grooves/bowl sites in the Wambo area, including the four grinding groove sites identified within the Modification Project Area. Of these known grinding groove sites, four are classed as having high regional archaeological significance, seven as being of moderate-high regional archaeological significance and eight as being of low regional archaeological significance. The four sites inside the Modification Project Area all belong to the latter category; low regional archaeological significance.

Of the newly recorded sites, only one site, Wambo Site 387, has the possible risk of adverse impact (i.e. >25%), all other grinding groove sites within the Modification Project Area are considered to be unlikely or very unlikely to experience adverse impacts. It should be noted however, that Wambo Site 387 is of low archaeological significance on a regional scale, and no grinding grooves of high or moderate-high archaeological significance will be impacted as a result of the Modification.

Table 13 Grinding Grooves Sites in the Wambo Area

Site Type	Site Status Salvaged (count)	Site Status Extant No Permit (count)	Site Status Extant current AHIP/ Permit (count)	Total in Modification Area (count)	Regional Archaeological Significance for Sites in Wambo Area	Total
Grinding Bowls with PAD		1			High	1
Grinding Grooves		4			Moderate to High	4
Grinding Grooves & Artefact Scatter	3	1			Low	4
Grinding Grooves with PAD		1			Moderate to High	1
Grinding Grooves, Artefact Scatter with PAD		2			Moderate to High	2
Grinding Surfaces		2	1		High	3
Grinding Grooves (296, 387, 388, 386)				4	Low	3
Total	3	11	1	4		19

8.3.3 Conclusion for Cumulative Impact Assessment

The cumulative impact as a result of the Modification for grinding groove sites is considered to be low. As discussed above, the five surface artefact sites potentially impacted by the Modification also constitute a low risk to cumulative impact.

8.4 Mitigation Measures

As the potential harm to Aboriginal heritage sites within the Modification Project area is related to ground surface movement associated with additional subsidence from the Modification and direct disturbance from possible vehicular movements, monitoring and subsidence remediation works (if required), the mitigation measures outlined in this section respond to a number of scenarios that may occur as a result of ground surface disturbances (**Table 11**).

On the basis that subsidence impacts are already approved within the Modification Project Area associated with approved layout of the SBUM, it was determined by the RAPs present during the field surveys that if subsidence impacts were considered to be low then it would be unlikely that artefact sites would suffer direct impact. However, where subsidence predictions were moderate to high then the artefact sites could be impacted on by downward movement due to vertical subsidence and surface cracking. The RAPs present during the field surveys recommended that artefact scatters and isolated finds not be moved unless required. They considered that if any potential impacts to specific sites were likely or that artefacts may be lost due to subsidence, then those sites should be salvaged under an appropriate permit. The RAPs also suggested that periodic monitoring of the sites be maintained by WCPL to mitigate against potential site damage from subsidence impacts. If any impact to the Aboriginal objects is considered likely then immediate remediation measures should be implemented. The RAPs' input has been considered for the formulation of the mitigation measures described in this section.

For surface artefacts (i.e. artefact scatters and isolated finds), it is best practice for Aboriginal objects to remain *in situ* if they are not likely to suffer harm. If Aboriginal objects located outside the current Consent 2222 boundary are likely to suffer harm as a result of the Modification, then a variation to Consent 2222 would be required. If salvage of Aboriginal objects under Consent 2222 (as varied) is undertaken, the

Aboriginal objects should be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the relevant RAPs.

There are four grinding groove sites in the Modification Project Area. Three were situated on the surface of the flat lying, jointed sandstone bedrock of Stony Creek (Wambo Sites 386, 387 and 388) and were identified in the southern part of the Modification Project Area during the recent survey. One grinding groove had been previously identified midslope on the surface of a sandstone boulder atop outcropping sandstone in the bed of an ephemeral tributary of North Wambo Creek in the north-western part of the Modification Project Area (Wambo Site 296).

Options for the grinding groove sites should include archival recording and ongoing monitoring by WCPL to manage potential site damage from subsidence effects. With regard to Wambo Site 387, engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of each of the grinding groove sites.

Although it was not tested in the field, it is possible that the sandstone boulder with the single groove on its surface at Wambo Site 296 might be able to be stabilised or removed from the creek bed and placed into the temporary keeping place with the other Aboriginal objects from the Wambo salvage programme under an appropriate AHIP and subject to consultation with the RAPs. The same management approach for the grinding grooves located in Stony Creek (Wambo Sites 386, 387 and 388) is problematic as it is unlikely that the grinding grooves could be removed from the sandstone bedrock.

While impacts to archaeological and cultural heritage within the Modification Project Area are predicted to be low to moderate with respect to the artefact sites and low to high with respect to the grinding groove sites, it is recommended that, if required, WCPL vary the existing Consent 2222 (s87 and s90 consent to carry out the destruction of an Aboriginal object/place and permit to collect and excavate for the purpose of salvage) under section 90 of the *National Parks and Wildlife Act 1974* to cover the western extent of the Modification Project Area and to allow for additional subsidence impacts and the salvage (if required) of registered and unregistered sites (should they be uncovered) in consultation with the RAPs.

The varied Consent 2222 would also cover ground surface remediation works, if required. In this instance an appropriate permit would need to be in place (i.e. the varied Consent 2222 described above) to salvage the artefacts and prevent them from being harmed. If salvage is deemed necessary then artefacts are to be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the RAPs.

The identified risks to heritage, as well as, proposed conservation and mitigation strategies have been summarised in **Table 14**.

Table 14 Summary of Potential Impacts, Risks to Heritage and Mitigation Options

Impact	Risk to Heritage	Mitigation Option 1	Mitigation Option 2	Mitigation Option 3
Mine Subsidence – Artefact Sites	Potential soil cracking and subsequent vertical downward movement of artefacts (MSEC 2015).	Subsidence monitoring in relation to Aboriginal sites to ensure subsidence movements are as predicted (details to be included in an Extraction Plan).	Move artefacts under an AHIP to a location outside of the impact area, if subsidence monitoring identifies cracking or erosion proximal to a site.	Not Applicable.
Mine Subsidence – Grinding Groove Sites	Potential fracturing of the sandstone bedrock and cracking of the grinding grooves (MSEC 2015).	Subsidence monitoring in relation to Aboriginal sites to ensure subsidence movements are as predicted (details	Prior to commencement of any mitigation works or actions, there should be a full archival recording of each of the	Ongoing monitoring by WCPL should be undertaken to manage potential site damage from subsidence

Impact	Risk to Heritage	Mitigation Option 1	Mitigation Option 2	Mitigation Option 3
		to be included in an Extraction Plan).	grinding groove sites. If subsidence monitoring identifies cracking or erosion proximal to a site then attempt to dissipate the cracking by remediation of surface cracks but avoiding the grooves using fill or earthmoving equipment.	effects. Ongoing dissipation of any cracking proximal to the site by remediation of surface cracks by the use of fill or earthmoving equipment avoiding the grooves. With regard to Wambo Site 387, engineering solutions to reduce the risk of cracking of the grooves should be considered in consultation with a qualified engineer. With regard to Wambo Site 296, appropriate engineering solutions should be considered; including stabilising the boulder with the groove, or removing the boulder if possible, under an AHIP to a safe location outside the impact area.
Vehicle Movement/ Subsidence Mitigation Works	Direct disturbance/damage to cultural heritage sites.	Avoid: ensure WCPL Environmental Officer and relevant personnel are given Aboriginal cultural heritage site locations so as to prevent harming sites. Avoid: locate subsidence mitigation works so as to prevent impacts on Aboriginal cultural heritage.	Demarcate site area or prevent vehicular access to site.	Move artefacts under an AHIP to a location outside of the impact area.
Surface Infrastructure	Direct disturbance/damage to cultural heritage sites.	Locate required surface infrastructure within limit of existing approved disturbance areas. Avoid impact to known Aboriginal cultural heritage sites and ensure WCPL Environmental Officer and relevant personnel are given Aboriginal cultural heritage site locations so as to prevent harming sites.	Demarcate site area to prevent accidental damage.	Move artefacts under an AHIP to a location outside of the impact area.
Vandalism	Direct disturbance/damage to cultural heritage sites.	Avoid: ensure WCPL Environmental Officer and relevant personnel are given cultural heritage site locations. All relevant WCPL personnel should be made aware of their statutory obligations	Demarcate site area and block access route to restrict vehicular access to sites.	Site awareness and sensitivity education programme.

Impact	Risk to Heritage	Mitigation Option 1	Mitigation Option 2	Mitigation Option 3
		for heritage under <i>National Parks and Wildlife Act 1974</i> and the <i>Heritage Act 1977</i> .		

8.5 Principles of Ecologically Sustainable Development

The principles of ecologically sustainable development need to be considered under Section 2A(2) of the *National Parks and Wildlife Act 1974*. Inter-generational equity is part of these principles, which allows future generations to access the cultural and environmental diversity of the present generation.

Intergenerational equity has been considered as part of the assessment of significance. State significant Aboriginal sites should be considered for blanket protection for future generations, as these sites have been assessed as having highest significance within NSW.

No Aboriginal sites of state significance were identified in this assessment and there were no Aboriginal Places identified within the Modification Project Area or its environs.

8.6 Summary

The nature and scale of historic and ongoing land disturbance processes in the region is extensive, largely as a result of agricultural and mining activities. Subsidence estimates for the Modification Project Area (including specific predictions for Aboriginal sites) have been provided by MSEC (2015). It is considered by MSEC that the potential for adverse impacts on Aboriginal heritage sites within the Modification Project area ranges from very unlikely to possible (i.e. greater than 25%). However, while the potential for impacts would increase as a result of the Modification, adverse impacts would still be considered very unlikely to possible based on the approved layout at the SBUM (MSEC 2015).

For surface artefacts (i.e. artefact scatters and isolated finds), it is best practice for Aboriginal objects to remain *in situ* if they are not likely to suffer harm. If Aboriginal objects located outside the current Consent 2222 boundary are likely to suffer harm as a result of the Modification, then a variation to Consent 2222 would be required. If salvage of Aboriginal objects under Consent 2222 (as varied) is undertaken, the Aboriginal objects should be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the relevant RAPs.

Options for the grinding groove sites should include archival recording and ongoing monitoring by WCPL to manage potential site damage from subsidence effects. With regard to Wambo Site 387, engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of each of the grinding groove sites.

It is considered that the Modification would not substantially increase cumulative impacts to Aboriginal heritage in the region.

The existing Consent 2222 (s87 and s90 consent to carry out the destruction of an Aboriginal object/place and permit to collect and excavate for the purpose of salvage) covers the vast majority of the Modification Project Area. It is therefore recommended that, if required, WCPL vary the existing Consent 2222 to cover the western extent of the Modification Project Area and to allow for additional subsidence impacts and the salvage (if required) of registered and unregistered sites (should they be uncovered) in consultation with the RAPs.

A variation to the existing Consent 2222 is required to incorporate the extent of subsidence associated with the Modification. This would include any Aboriginal sites located within the Modification Project Area but that are outside the existing Consent 2222 boundary (Wambo Site 296 [grinding groove site] and Wambo Site 297 [isolated find]). The newly identified Aboriginal sites (Wambo Sites 382, 383, 385 [artefact scatters], Wambo Site 384 [isolated find] and Wambo Sites 386, 387 and 388 [grinding grooves]) are located within the existing Consent 2222 boundary.

Remediation of the ground surface might be required post mining. Artefacts should be salvaged under an approved AHIP to prevent them from being harmed. If salvage is deemed necessary then artefacts are to be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the RAPs.

In summary:

- That periodic monitoring of the sites be maintained by WCPL to mitigate against potential site damage from subsidence impacts
- The grinding groove site Wambo Site 296 is *unlikely* to be adversely impacted by the Modification (MSEC 2015: 63). All reasonable and feasible action would be taken to avoid impacts to this site. Appropriate engineering solutions would be considered; this may involve stabilising the boulder that this site is located on, or removing the boulder to a safe location. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of the site.
- The grinding groove site Wambo Site 387 may be adversely impacted by the Modification (MSEC 2015: 63) from fracturing of the bedrock (i.e. the potential for adverse impacts is assessed as *possible* [i.e. greater than 25%]). All reasonable and feasible action would be taken to avoid impacts to this site. Engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of the site.
- The grinding groove site Wambo Site 386 is *very unlikely* to be affected by the Modification (MSEC 2015: 63). WCPL would undertake ongoing monitoring to mitigate against potential site damage from subsidence effects. Prior to the commencement of mitigation works or actions, there should be a full archival recording of the site.
- The grinding groove site Wambo Site 388 is *unlikely* to be affected by the Modification (MSEC 2015: 63). WCPL would undertake ongoing monitoring to mitigate against potential site damage from subsidence effects. Prior to the commencement of mitigation works or actions, there should be a full archival recording of the site.
- The artefact sites, Wambo Site 297, Wambo Site 382, Wambo Site 383, Wambo Site 384 and Wambo Site 385 may be affected by vertical subsidence, or from ground surface disturbances associated with vehicular movements, monitoring and subsidence remediation works, where required (MSEC 2015: 63). WCPL would undertake ongoing monitoring to mitigate against potential site damage from subsidence effects. If impact is likely it is recommended that Aboriginal objects be salvaged under Consent 2222 (as varied) in participation with the RAPs and transferred to the temporary keeping place under the existing Care and Control Permit (#3130).
- All Aboriginal objects salvaged should be placed in the temporary keeping place at WCPL. Once mining and rehabilitation has been completed, the ongoing storage of the artefacts will be discussed with the RAPs; this conversation should include the option of returning artefacts back to their original locations, where feasible.

9.0 Conclusions and Recommendations

This CHIA has considered the environmental and archaeological context of Modification Project Area, developed a predictive model and reported on the results of an archaeological survey of the Modification Project Area. The management recommendations have been formulated with consideration to the significance of Aboriginal cultural heritage, as well as potential impacts, and have been prepared in accordance with the relevant legislation.

There were no historic heritage items within the Modification Project Area and there were no predicted impacts to historic heritage items outside of the Modification Project Area.

There are nine Aboriginal sites in the Modification Project Area. Subsidence estimates for the Modification Project Area (including specific predictions for Aboriginal sites) have been provided by MSEC (2015) and vary from low to high as discussed in Section 7.

Subsidence estimates for the Modification Project Area (including specific predictions for Aboriginal sites) have been provided by MSEC (2015). Remediation of the ground surface might be required post mining potentially causing harm to Aboriginal objects. Consequently those Aboriginal sites suitable for salvage under an approved AHIP should be managed accordingly to prevent them from being harmed. If salvage is deemed necessary then artefacts are to be transferred to the temporary keeping place under the existing Care and Control Permit (#3130) in consultation with the RAPs.

Options for the grinding groove sites should include archival recording and ongoing monitoring by WCPL to manage potential site damage from subsidence effects. With regard to Wambo Site 387, engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer. Prior to the commencement of any mitigation works or actions, there should be a full archival recording of each of the grinding groove sites.

9.1 Conclusions

The conclusions of the CHIA are that it has:

- been carried out in accordance with the relevant statutory, regulatory requirements and policy guidelines;
- identified no historic heritage items in the Modification Project Area;
- identified no potential impacts to historic heritage outside of the Modification Project Area;
- detailed the location, nature and extent of the survey and its findings in respect of the Aboriginal heritage already registered under the AHIMS database and those archaeological sites identified in the survey;
- identified and assessed the significance of Aboriginal sites;
- assessed the possible nature and extent of the impacts, if any, on the identified Aboriginal sites; and
- proposed appropriate management and mitigation measures for the identified Aboriginal sites.

9.2 Management and Mitigation Measures

The CHIA recommends the following actions to conserve and mitigate impacts to Aboriginal sites and objects:

Recommendation 1

It is recommended that the surface artefacts remain *in situ* unless impact to the Aboriginal sites is unavoidable. If there is a risk of harm to surface artefacts then they should be managed in accordance with Recommendation 3.

Recommendation 2

Prior to commencement of longwall mining associated with the Modification, the grinding groove sites should be subject to archival recording in accordance with OEH standards.

WCPL should undertake subsidence monitoring to ensure that subsidence effects are consistent with the predicted impacts. If a risk of harm is identified to grinding grooves, prior to, or during subsidence monitoring then engineering solutions to reduce the risk of cracking of the grooves would be considered in consultation with a qualified engineer.

Recommendation 3

It is recommended that the existing Consent 2222 be varied to include the extent of the Modification Project Area. Aboriginal objects within the existing Consent 2222 boundary are to be managed in accordance with the terms and conditions of Consent 2222. Aboriginal objects collected are to be transferred to the temporary keeping place under the existing Care and Control Permit (#3130).

Recommendation 4

The location of any Aboriginal sites in the Modification Project Area should be included in the WCPL environmental management framework for the Modification Project Area so that all relevant personnel are aware of the management requirements.

Recommendation 5

If any previously unrecorded Aboriginal sites are identified during the course of surface works in the Modification Project Area, the area should be demarcated and surface works suspended until the site has been adequately recorded by a qualified archaeologist. Any newly identified Aboriginal sites should be managed in accordance with management measures for similar sites or artefact types previously identified within the Modification Project Area or across the wider Wambo area contained in Consent 2222 and in consultation with the RAPs.

Recommendation 6

In the event that skeletal remains are uncovered, work must cease immediately in that area and WCPL will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If the remains are determined to be Aboriginal, WCPL should then contact the NSW Office of Environment and Heritage (OEH) Enviroline 131 555 and the RAPs in order to determine an action plan for the management of the skeletal remains prior to works re-commencing.

Recommendation 7

All relevant WCPL staff should be made aware of their statutory obligations for heritage under *National Parks and Wildlife Act 1974* and the *Heritage Act 1977*, which may be implemented as a heritage induction. If during the course of surface site works significant European cultural heritage material is uncovered, surface work should cease in that area immediately. OEH should be notified and works only recommenced when an appropriate and approved management strategy has been instigated.

10.0 Plates



Plate 1 SU1 Lower slopes showing typical vegetation



Plate 2 SU1 Land clearing and ephemeral creek line in highly modified area



Plate 3 SU1 Land clearing & access tracks



Plate 4 SU1 Water runoff and pebble laterite on surface of clay B horizon



Plate 5 SU1 Recent storm damage along ephemeral creek line



Plate 6 SU1 lower slopes showing typical vegetation



Plate 7 SU1 B horizon clays with pebble laterite



Plate 8 SU1 Exposure and sheet wash erosion



Plate 9 SU1 Artefact scatter Wambo Site 382



Plate 10 SU1 Wambo Site 382 artefacts at base of tree



Plate 11 SU Artefact scatter Wambo Site 383



Plate 12 Wambo Site 383 artefacts along disused track



Plate 13 SU1 Isolated Find Wambo Site 384



Plate 14 SU1 Wambo Site 384 artefact at base of tree



Plate 15 SU1 North Wambo Creek Diversion south-west bank



Plate 16 SU2 Mid slopes showing typical vegetation



Plate 17 SU2 Boulder clad slopes



Plate 18 SU2 Ephemeral creek line



Plate 19 SU2 Steep sided ephemeral creek lines



Plate 20 SU2 Conglomerate sandstone bedrock



Plate 21 SU2 Interlocking spurs



Plate 22 SU2 Sand and pebbles re-deposited downstream at break in slope



Plate 23 SU2 Previous land clearing revegetated with saplings



Plate 24 SU2 Water runoff along access track with pebble laterite on surface of B horizon soils



Plate 25 SU2 Steep sided ephemeral creek lined with conglomerate and fine grained sandstone



Plate 26 Wambo Site 296 grinding groove boulder in foreground atop sheeted sandstone bedrock



Plate 27 SU2 Wambo Site 297 isolated find not visible - area shows evidence of high water flow



Plate 28 SU2 Sandstone rock along Stream 2 upstream from Wambo Site 297



Plate 29 SU2 Wambo Site 385 artefact scatter close to access track with artefacts on surface of sandy soils



Plate 30 SU2 Wambo Site 385 artefacts on surface of sandy soils



Plate 31 SU3 Steep screed slope



Plate 32 SU3 Steep sided ephemeral creek line



Plate 33 SU3 Sandy soils with pebbles and cobbles



Plate 34 SU3 Densely wooded slopes characterised by eucalypt trees, native shrubs and grasses



Plate 35 SU3 Large boulders no rock shelters found



Plate 36 SU3 Boulder lined ephemeral creek line with fine grained sandstone bedrock



Plate 37 SU3 Steep sided ephemeral creek lined with fine grained sandstone



Plate 38 SU3 Pebble sandstone bedrock in ephemeral creek line



Plate 39 SU3 Mature ironbark tree



Plate 40 SU3 View to north-west with mature tree and flat topped spur in western part of SU3



Plate 41 SU3 View to north-east along flat topped spur



Plate 42 SU3 Large boulders & vegetation along spur



Plate 43 SU3 View to south west showing access track along spur and steeply sloping sides



Plate 44 SU3 typical view from upper slope showing steep drop to creek line below



Plate 45 SU4 View to east showing access track along ridgeline and steeply sloping sides



Plate 46 SU4 Densely wooded slopes north facing slope below ridgeline characterised by eucalypt trees, native shrubs and grasses



Plate 47 SU4 View along ridgeline showing steep slopes with boulders and leaf litter



Plate 48 SU4 View of steep slope below ridgeline with boulders and leaf litter



Plate 49 SU4 View showing boulders on steep north-east facing slope just below the ridgeline



Plate 50 SU4 View to south-west to Stony Creek with steep slopes and dense vegetation covering slope



Plate 51 SU4 View to south-east along ridgeline towards Wambo Site 89



Plate 52 View to north-west showing Wambo Site 90 on flattened spur with ridgeline in background



Plate 53 SU4 Leaf litter and exposed soils at Wambo Site 90



Plate 54 SU4 Access narrows to the west along the ridgeline



Plate 55 SU4 Densely wooded east facing slope at western end of ridgeline characterised by eucalypt trees, native shrubs and grasses



Plate 56 SU4 Large boulders & vegetation at western extent of ridgeline with densely wooded slopes characterised by eucalypt trees and native shrubs



Plate 57 SU4 View to south-west from ridgeline



Plate 58 SU4 View to south to Wollemi National Park from ridgeline



Plate 59 SU4 Macrozamia Plants



Plate 60 SU4 Macrozamia Plants



Plate 61 SU5 View to north-east showing area of artefact scatters on northern bank of Stony Creek at creek crossing 300 m to east of Modification Project Area



Plate 62 SU5 Sandstone boulders and river pebbles along Stony Creek



Plate 63 SU5 View to west showing sandstone boulders on lower southern bank



Plate 64 SU5 Sandstone boulders and natural waterhole in bed of Stony Creek



Plate 65 SU5 Wambo Site 386 – single grinding groove on surface of fine grained sandstone rock



Plate 66 SU5 View showing lower southern creek bank of Stony Creek with sandstone boulders and typical vegetation



Plate 67 SU5 View to west at confluence of Stony Creek & first order tributary.



Plate 68 SU5 View to south showing ephemeral creek line at confluence with Stony Creek



Plate 69 SU5 View to west showing densely wooded steeply sloping lower creek banks with boulders and cobbles in bed of Stony Creek



Plate 70 SU5 View to west showing dense vegetation along lower northern bank



Plate 71 SU5 View to west showing vegetation and boulders along southern bank



Plate 72 SU5 View along Stony Creek showing erratics in creek bed



Plate 73 SU5 Wambo Site 387 at natural creek crossing – grinding grooves creek bed of Stony Creek



Plate 74 SU5 Wambo Site 387 showing grinding grooves on surface of flat lying fine grained sandstone



Plate 75 SU5 Wambo Site 387 grinding groove



Plate 76 SU5 Wambo Site 387 grinding groove



Plate 77 SU5 Wambo Site 387 grinding grooves on sandstone rocks in foreground



Plate 78 SU5 Wambo Site 387 grinding grooves on sandstone rocks



Plate 79 SU5 Densely wooded south-west facing mid slope above Stony Creek characterised by eucalypt trees, native shrubs and grasses



Plate 80 SU5 Boulders & vegetation on south-west facing upper slope above Stony Creek characterised by eucalypt trees and native shrubs



Plate 81 SU5 Massive boulders in Stony Creek



Plate 82 SU5 Water trapped by surrounding rocks in Stony Creek bed

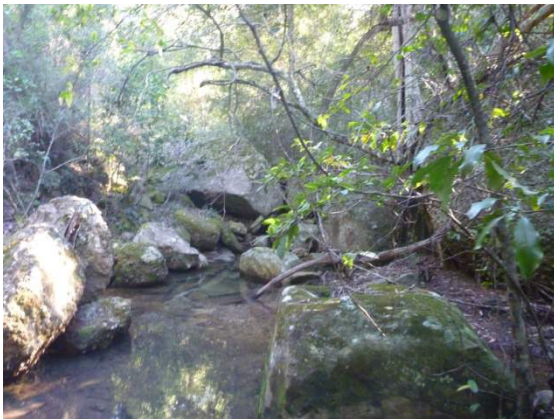


Plate 83 SU5 Natural waterhole



Plate 84 SU5 Wambo Site 388 sandstone platform with grinding grooves



Plate 85 SU5 Wambo Site 388 jointed sandstone rocks

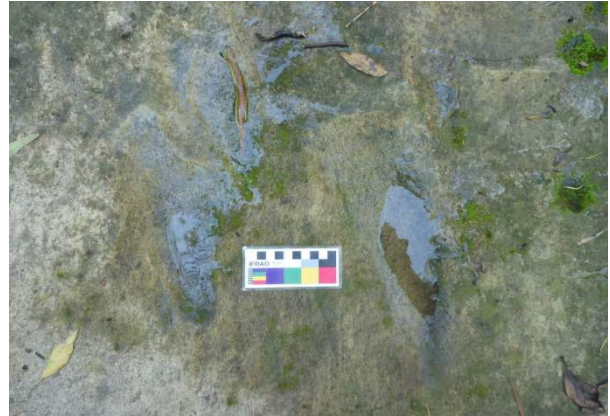


Plate 86 SU5 Wambo Site 388 grinding grooves

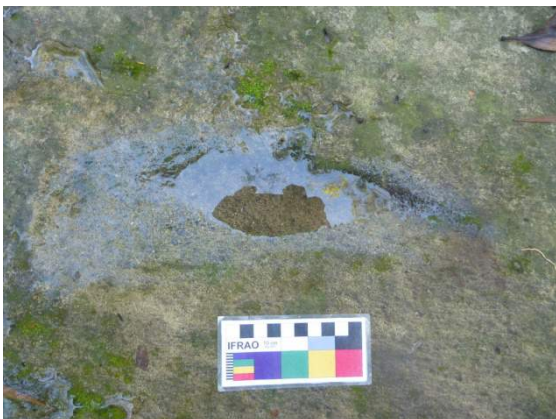


Plate 87 Wambo Site 388 grinding groove in bed of Stony Creek



Plate 88 SU5 Wambo Site 388 grinding groove in bed of Stony Creek



Plate 89 SU5 View along Stony Creek showing tumbled rocks blocking access



Plate 90 SU4 Densely vegetated slope on northern bank of Stony Creek

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Appendix I

Aboriginal Consultation Log

DATE	ORGANISATION CONTACTED	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	ORGANISATION REPRESENTED	NATURE OF CONSULTATION
18/03/2015	Step 1 Government Organisations	Office of Environment and Heritage, Wanaruah Local Aboriginal Land Council, Singleton Shire Council, NTSCORP, Hunter Local Land Services, National Native Title Tribunal, Registrar of Aboriginal Land Rights Act 1983	Post	Troy Favell	Wambo Coal Pty Ltd	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 South Bates Modification (the Modification).
24/03/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Post	George Tonna	NTSCORP	NTSCORP provided a response to the Step 1 letter.
24/03/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Nicole Davis	Office of Environment and Heritage	Office of Environment and Heritage provided a response to the Step 1 letter.
25/03/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Dianne Drake	National Native Title Tribunal	National Native Title Tribunal provided a response to the Step 1 letter.
31/03/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Bree Waterhouse	Ungooroo Aboriginal Corporation	Ungooroo Aboriginal Corporation registered an interest in the Modification.
1/04/2015	Existing Wambo Registered Aboriginal Parties	Aboriginal Native Title Consultants, AGA Services, Bawurra Consultants, Breeza Plains Cultural Heritage Consultants, Bullen Bullen Heritage Consultants, Buudang, Cacatua Culture Consultants, Carrawonga Consultants, Culturally Aware, Deslee Talbott Consultants, DFTV Enterprises, DRM Cultural Management, EMT Cultural & Heritage, Ronald Fenwick, Galamaay Consultant, Gidawaa Walang Cultural Heritage Consultancy, Giwir Consultants, Jill Green, HECMO Consultants, Heilamon Cultural Consultants, HTO Environmental Management Services, Hunter Valley Aboriginal Corporation, Hunter Valley Cultural Consultants, Hunter Valley Cultural Surveying, Hunter Valley Natural & Cultural Resource Management, I & E Aboriginal Culture and Heritage, Janbant Mugrebea, JLC Cultural Services, Kauwul (Wonn1), Kawul Cultural Services, Kayaway Eco Cultural & Heritage Services, KL.KG Saunders Trading Services, L.J. Cultural Management, Lower Hunter Aboriginal Incorporated, Lower Hunter Wonnarua Council Incorporated (also known as Lower Hunter Wonnarua Cultural Services), Maree /TA Wallangan Cultural Services, Jeffrey Matthews, JLC Cultural Management, Mingga Consultants, Moreeites, Muswellbrook Cultural Consultants, Myland Cultural Heritage Group, Ngarramang-Kuri Aboriginal Culture & Heritage Group, Roger Noel Matthews, Roslyn Sampson, Smith Dhagaans Cultural Group, Scott Smith, T & G Culture Consultants, Lorraine Towney, Ungooroo Aboriginal Corporation, Ungooroo Cultural & Community Services, Upper Hunter Heritage Consultants, Upper Hunter Wonnarua Council Incorporated, Valley Culture, Waabi Gabinya Cultural Consultancy, Wanaruah Custodians Aboriginal Corporation, Wanaruah Local Aboriginal Land Council, Warragil Cultural Services, Wattaka Wonnarua Cultural Consultancy Services, Widescope Indigenous Group Pty Ltd, Wonnarua Culture Heritage, Wonnarua Nation Aboriginal Corporation, Wonnarua Traditional Owners, Wurrumay Consultants, Yarrowalk (a division of Tocomwall Pty Ltd) and Yinarr Cultural Services.	Post	Micheal Alexander	Wambo Coal Pty Ltd	Letters sent out to existing RAPs at the Wambo Coal Mine to advise them of the Modification and to notify them that they have been automatically registered as Registered Aboriginal Parties for the Modification.
2/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Noel Downs	Wanaruah Local Aboriginal Land Council	Wanaruah Local Aboriginal Land Council provided a response to the Step 1 letter and registered an interest in the Modification.
2/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Tom Miller	Lower Hunter Wonnarua Cultural Services	Lower Hunter Wonnarua Cultural Services registered an interest in the Modification.
2/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Scott Franks	Tocomwall Pty Ltd	Scott Franks emailed to request a phone call to discuss the Modification.
2/04/2015	Scott Franks	Tocomwall Pty Ltd	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called at 10.35am as per his email request. Scott noted that Tocomwall was already registered for the Modification. General discussion about the Modification.
7/04/2015	N/A	N/A	Public Notice	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	A public notice was published in the Singleton Argus on 7 April 2015, 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 Modification.

DATE	ORGANISATION CONTACTED	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	ORGANISATION REPRESENTED	NATURE OF CONSULTATION
7/04/2015	Aboriginal stakeholders identified by relevant government organisations	Aboriginal Native Title Elders Consultants, Alieria French Trading, Alison Sampson, Black Creek Aboriginal Corporation, Devine Diggers Aboriginal Cultural Consultants, Esther Tighe, Griffiths Group, HSB Heritage Consultants, Hunter Traditional Owner, Hunters & Collectors, Jumbunna Traffic Management Group Pty Ltd, Kauma Pondie Inc., Lower Wonnarua Tribal Consultancy Pty Ltd, Michelle Saunders, Mindaribba Local Aboriginal Land Council, Mooki Plains Management, Mooki Plains Management, Murrawan Cultural Consultants Pty Ltd, Rebecca Lester, Ron Smith, St Clair Singleton Aboriginal Corporation, Steven Saunders, Thawan Heritage Consultant, Trevor Robinson, Wananuah Custodians, Wattaka Wonnarua CC Service, Wonnarua Elders Council, J & A Leonardi, Stephen Talbot, Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People, Wonnarua Traditional Custodians NTAC	Post	Micheal Alexander	Wambo Coal Pty Ltd	Step 2 letters sent out to groups/individual identified during Step 1 (who are not already automatically registered for the Modification), 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 CCP.
7/04/2015	Registrar of Aboriginal Land Rights Act 1983	Registrar of Aboriginal Land Rights Act 1983	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called at 3.45pm and spoke with Sally. She confirmed that they would provide a response via email to the Step 1 letter by COB Wednesday 8 April 2015. Sally requested an additional copy of the letter be emailed through to the Registrar of Aboriginal Land Rights Act 1983.
7/04/2015	Registrar of Aboriginal Land Rights Act 1983	Registrar of Aboriginal Land Rights Act 1983	Email	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	An additional copy of the Step 1 letter was sent out as requested, 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 Modification.
7/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Bree Waterhouse	Ungooroo Aboriginal Corporation	Ungooroo Aboriginal Corporation registered an interest in the Modification. This was a follow up registration following receipt of the letter confirming their registration for the Modification.
20/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Post	Australia Post	Australia Post	Received returned mail from Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People with the Step 2 letter.
20/04/2015	Scott Franks	Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People	Post	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Re-posted Step 2 letter, 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 CCP.
20/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Post	Reginald Eveleigh	Wananuah Custodians Aboriginal Corporation	Wananuah Custodians Aboriginal Corporation registered an interest in the Modification.
24/04/2015	Danny Franks	Tocomwall Pty Ltd	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Returned a call from Danny Franks. The Plains Clans of the Wonnarua People Registered Native Title Claimants registered and interest in the Modification. Danny noted that he would provide a formal written expression of interest via email.
24/04/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Danny Franks	Tocomwall Pty Ltd	Tocomwall provided correspondence to advise that Tocomwall is the representative for the Registered Native Title Party The Plains Clan of the Wonnarua People (Federal Court Number NSD1680/2013, NNTT Number NC2013/006).
1/05/2015	Selected Registered Aboriginal Parties	DFTV Enterprises, Moreeites, Roger Noel Matthews, Waabi Gabinya Cultural Consultancy, Wurrumay Consultants, Yarrowalk (a division of Tocomwall Pty Ltd)	Post	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Letters were posted out to selected RAPs with an invitation to attend the field surveys for the Modification on Thursday 28 and Friday 29 May and Thursday 4 June 2015.
7/05/2015	Tessa Boer-Mah	RPS	Telephone	Scott Franks	Tocomwall Pty Ltd	Received a phone call from Scott Franks requesting that only the Native Title group be consulted for the CHIA. It was explained that until the Native Title claim was determined, consultation was required to be undertaken consistent with the requirements of the ACHCRs. It was also confirmed that both written and verbal feedback would be considered during finalisation of the methodology and addressed accordingly. Scott indicated that Tocomwall would not be attending the information session.
8/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Derrick Vale	DFTV Enterprises	Derrick called to confirm attendance at the field surveys. He confirmed that he would provide insurances early next week.
8/05/2015	Nicole Davis	Office of Environment and Heritage	Post	Micheal Alexander	Wambo Coal Pty Ltd	A list of Registered Aboriginal Parties for the Modification was provided.
8/05/2015	Nicole Davis	Office of Environment and Heritage	Email	Micheal Alexander	Wambo Coal Pty Ltd	A list of Registered Aboriginal Parties for the Modification was provided.
8/05/2015	Noel Downs	Wananuah Local Aboriginal Land Council	Post	Micheal Alexander	Wambo Coal Pty Ltd	A list of Registered Aboriginal Parties for the Modification was provided.
11/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Derrick Vale	DFTV Enterprises	Derrick provided a copy of the field survey registration form and a certificate of currency for workers compensation.
12/05/2015	Derrick Vale	DFTV Enterprises	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to request a copy of Certificate of Currency for Public Liability for DFTV Enterprises. Left message requesting a call back.
12/05/2015	Sue Cutmore	Moreeites	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm receipt of field survey invitation letter and whether a representative of Moreeites was able to attend. Phone line disconnected.
12/05/2015	Kerrie Slater	Wurrumay Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm receipt of field survey invitation letter and whether a representative of Wurrumay Consultants was able to attend. Phone line disconnected.

DATE	ORGANISATION CONTACTED	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	ORGANISATION REPRESENTED	NATURE OF CONSULTATION
12/05/2015	Roger Matthews	Roger Matthews	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm receipt of field survey invitation letter and whether Roger Matthews was able to attend. Left a message requesting a call back by COB 13/05/2015 otherwise it would be assumed Roger was unable to attend and the survey space would be offered to another Registered Aboriginal Party.
12/05/2015	Elizabeth Howard	Waabi Gabinya Cultural Consultancy	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm receipt of field survey invitation letter and whether a representative of Waabi Gabinya Cultural Consultancy was able to attend. Left a message requesting a call back by COB 13/05/2015 otherwise it would be assumed a representative was unable to attend and the survey space would be offered to another Registered Aboriginal Party.
13/05/2015	Derrick Vale	DFTV Enterprises	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Derrick confirmed that he would send through a copy of the Certificate of Currency for Public Liability for DFTV Enterprises.
13/05/2015	Danny Franks	Tocomwall Pty Ltd	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Danny to confirm whether a representative of Tocomwall would be available for the surveys. Danny advised that he would follow up and would call be to confirm.
13/05/2015	Karen Matthews	Galamaay Consultant	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm receipt of field survey invitation letter and whether a representative of Galamaay Consultant was able to attend. Phone line disconnected.
13/05/2015	Kerren Boyd	HECMO Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Kerren to confirm whether a representative of HECMO Consultants would be available for the surveys. Kerren advised that he would follow up and would call be to confirm.
14/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Bree Waterhouse	Ungooroo Aboriginal Corporation	Ungooroo Aboriginal Corporation confirmed attendance of a representative at the Proposed Methodology information session.
19/05/2015	Kerren Boyd	HECMO Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Kerren to confirm whether a representative of HECMO Consultants would be available for the surveys. Kerren advised that no one was able to attend.
19/05/2015	Kevin Sampson	Bawurra Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Kevin to confirm whether a representative of Bawurra Consultants would be available for the surveys. Kevin advised that he would need to call back to confirm.
19/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Kevin Sampson	Bawurra Consultants	Kevin called to confirm that a representative of Bawurra Consultants could attend the field surveys. Kevin was advised that formal correspondence would be posted to him.
19/05/2015	Terry Matthews	Breeza Plains Cultural Heritage Consultancy	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Terry to confirm whether a representative of Breeza Plains Cultural Heritage Consultancy would be available for the surveys. Left a message for Terry to call back to confirm availability.
19/05/2015	Ann Hickey	Gidawaa Walang Cultural Heritage Consultancy	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Ann to confirm whether a representative of Gidawaa Walang Cultural Heritage Consultancy would be available for the surveys. Ann advised that no one was able to attend.
19/05/2015	Donna Sampson	Cacatua Culture Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Donna to confirm whether a representative of Cacatua Culture Consultants would be available for the surveys. Left a message for Donna to call back to confirm availability.
19/05/2015	Tracey Skene	Culturally Aware	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Tracey to confirm whether a representative of Culturally Aware would be available for the surveys. Left a message for Tracey to call back to confirm availability.
19/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Tracey Skene	Culturally Aware	Tracey called to confirm that a representative of Culturally Aware could attend the field surveys. Tracey was advised that formal correspondence would be posted to her.
19/05/2015	Kevin Sampson	Bawurra Consultants	Post	Micheal Alexander	Wambo Coal Pty Ltd	A letter was posted out to Bawurra Consultants with an invitation to attend the field surveys for the Modification on Thursday 28 and Friday 29 May 2015.
19/05/2015	Tracey Skene	Culturally Aware	Post	Micheal Alexander	Wambo Coal Pty Ltd	A letter was posted out to Culturally Aware with an invitation to attend the field surveys for the Modification on Thursday 28 and Friday 29 May 2015.
20/05/2015	Donna Sampson	Cacatua Culture Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Donna to confirm whether a representative of Cacatua Culture Consultants would be available for the surveys. Donna confirmed that a representative could attend the field surveys. Donna was advised that formal correspondence would be posted and emailed to her.
20/05/2015	Danny Franks	Tocomwall Pty Ltd	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Danny to confirm whether a representative of Tocomwall would be available for the surveys. Danny advised that he would follow up and would call be to confirm.
20/05/2015	Donna Sampson	Cacatua Culture Consultants	Post/Email	Micheal Alexander	Wambo Coal Pty Ltd	A letter was posted/emailed out to Cacatua Culture Consultants with an invitation to attend the field surveys for the Modification on Thursday 28 and Friday 29 May 2015.
20/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Email	Scott Franks	Tocomwall Pty Ltd	Scott Franks provided a response to the Proposed Methodology.
21/05/2015	Bree Waterhouse	Ungooroo Aboriginal Corporation	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called Bree to confirm whether a representative of Ungooroo Aboriginal Corporation would be available for the surveys. Bree advised that she would call back to confirm.
21/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Bree Waterhouse	Ungooroo Aboriginal Corporation	Bree confirmed that a representative of Ungooroo Aboriginal Corporation could attend the field surveys. Bree was advised that formal correspondence would be posted and emailed to her.
22/05/2015	Bree Waterhouse	Ungooroo Aboriginal Corporation	Email	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	A letter was posted/emailed out to Ungooroo Aboriginal Corporation with an invitation to attend the field surveys for the Modification on Thursday 28 and Friday 29 May 2015.
22/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Donna Sampson	Cacatua Culture Consultants	Donna called to advise that the insurances and paperwork for Cacatua Culture Consultants will be emailed through on Monday.
24/05/2015	Donna Sampson	Cacatua Culture Consultants also known as Cacatua Culture Services	Email	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Donna emailed through insurances and field survey registration form for Cacatua Culture Services.
26/05/2015	Scott Franks	Tocomwall Pty Ltd	Post/Email	Micheal Alexander	Wambo Coal Pty Ltd	Correspondence was provided to Tocomwall to acknowledge receipt of their comments on the Proposed Methodology, to request any cultural information that Tocomwall or the Registered Native Title Party has and to note that their involvement in the field surveys would be appreciated.

DATE	ORGANISATION CONTACTED	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	ORGANISATION REPRESENTED	NATURE OF CONSULTATION
26/05/2015	Registered Aboriginal Parties	Ungooroo Aboriginal Corporation, Hunter Valley Aboriginal Corporation	Information Session	Representatives of Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Attendance at the Proposed Methodology information session, to discuss the nature and scale of the proposed Modification, an overview of the impact assessment process, the roles, functions and responsibilities of participants and protocols for the management of any sensitive cultural heritage information.
26/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	In Person	Allen Paget	Ungooroo Aboriginal Corporation	Allen advised that the Ungooroo Aboriginal Corporation had no concerns with the content of the Proposed Methodology.
26/05/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	In Person	Rhonda Griffiths	Hunter Valley Aboriginal Corporation	Rhonda advised that the Hunter Valley Aboriginal Corporation supports the Wanaruah LALC in any comment they may have regarding the Proposed Methodology. Rhonda also raised queries regarding the storage of artefacts in the Keeping Place. It was noted by RPS that WCPL maintains a temporary keeping place as agreed previously with Registered Aboriginal Parties (meeting in '09) and in accordance with the Care and Control Permit. Gillian noted that the location (coordinates) of the temporary keeping place is registered with the OEH.
26/05/2015	Wambo Coal Pty Ltd	Ungooroo Aboriginal Corporation	In Person	Allen Paget	Ungooroo Aboriginal Corporation	Allen advised that Ungooroo Aboriginal Corporation would provide site officers for the survey.
27/05/2015	Micheal Alexander	Wambo Coal Pty Ltd	Email	Scott Franks	Tocomwall Pty Ltd	Scott Franks confirmed receipt of correspondence from WCPL dated 26 May 2015 in response to comments on the Proposed Methodology.
28/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Adam Sampson	Cacatua Culture Consultants	Adam advised that he was satisfied that the visual inspection had been conducted in accordance with the methodology.
28/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Georgina Berry	Culturally Aware	Georgina advised that she was satisfied that the visual inspection had been conducted in accordance with the methodology.
28/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Leanne Kirkman	Hunter Valley Aboriginal Corporation	Leanne advised that she was satisfied that the visual inspection had been conducted in accordance with the methodology.
28/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Allen Paget	Ungooroo Aboriginal Corporation	Allen advised that he was satisfied that the visual inspection had been conducted in accordance with the methodology.
29/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Georgina Berry	Culturally Aware	Georgina advised that she was satisfied that the visual inspection had been conducted in accordance with the methodology.
29/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Katina Vale	DFTV Enterprises	Katina advised that she was satisfied that the visual inspection had been conducted in accordance with the methodology.
29/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Leanne Kirkman	Hunter Valley Aboriginal Corporation	Leanne advised that she was satisfied that the visual inspection had been conducted in accordance with the methodology.
29/05/2015	Philippa Sokol & Jeremy Hill	RPS	In Person	Marcus Sproule	Ungooroo Aboriginal Corporation	Marcus advised that he was satisfied that the visual inspection had been conducted in accordance with the methodology.
1/06/2015	Bree Waterhouse	Ungooroo Aboriginal Corporation	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called at 3.33pm to request availability of sites officers for additional fieldwork.
1/06/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Telephone	Bree Waterhouse	Ungooroo Aboriginal Corporation	Ungooroo Aboriginal Corporation confirmed that Allen Paget would be available to attend the fieldwork on Thursday.
4/06/2015	Jeremy Hill	RPS	In Person	Allen Paget	Ungooroo Aboriginal Corporation	Allen advised that he was satisfied that the visual inspection had been conducted in accordance with the methodology.
1/07/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Verbal	Scott Franks	Yarrowalk (a Division of Tocomwall Pty Ltd)	Requested that the organisation Yarrowalk (a Division of Tocomwall Pty Ltd) be referred to as Tocomwall Pty Ltd in all future correspondence.
14/07/2015	Registered Aboriginal Parties	Registered Aboriginal Parties	Post	Steve Peart	Wambo Coal Pty Ltd	Copies of the draft CHIA were distributed to the RAPs, including an invitation to attend an information session on 14 August 2015 to discuss the draft CHIA.
20/07/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Post	Australia Post	Australia Post	Returned mail (with copy of draft CHIA) received for Hunter Valley Natural & Cultural Resource Management, KL.KG Saunders Trading Services and Upper Hunter Heritage Consultants.
20/07/2015	Darrell Matthews	Upper Hunter Heritage Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm correct postal address. Phone line disconnected.
20/07/2015	Krystal Saunders	KL.KG Saunders Trading Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm correct postal address. Phone line disconnected.
20/07/2015	David French	Hunter Valley Natural & Cultural Resource Management	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to confirm correct postal address. Phone line disconnected.
21/07/2015	Krystal Saunders	KL.KG Saunders Trading Services	Telephone	Gillian Goode	RPS	Called to confirm correct postal address. Krystal's mother provided an updated postal address.
21/07/2015	Darrell Matthews	Upper Hunter Heritage Consultants	Email	Gillian Goode	RPS	Email to Darrell to confirm correct address to redirect the draft CHIA.
21/07/2015	David French	Hunter Valley Natural & Cultural Resource Management	Email	Gillian Goode	RPS	Email to David to confirm correct address to redirect the draft CHIA.
21/07/2015	David French	Hunter Valley Natural & Cultural Resource Management	Post	Steve Peart	Wambo Coal Pty Ltd	Draft CHIA redirected to alternative postal address.
21/07/2015	Krystal Saunders	KL.KG Saunders Trading Services	Post	Steve Peart	Wambo Coal Pty Ltd	Draft CHIA redirected to alternative postal address.
22/07/2015	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Post	Australia Post	Australia Post	Returned mail (with copy of draft CHIA) received for Kawul Cultural Services.
22/07/2015	Vicky Slater	Kawul Cultural Services	Email	Gillian Goode	RPS	Email to Vicky to confirm correct address to redirect the draft CHIA.
23/07/2015	Vicky Slater	Kawul Cultural Services	Telephone	Gillian Goode	RPS	Called to confirm correct address to redirect the draft CHIA.
24/07/2015	Vicky Slater	Kawul Cultural Services	Telephone	Gillian Goode	RPS	Called to confirm correct address to redirect the draft CHIA.
24/07/2015	Vicky Slater	Kawul Cultural Services	Email	Gillian Goode	RPS	Email to Vicky to confirm correct address to redirect the draft CHIA.
24/07/2015	Darrell Matthews	Upper Hunter Heritage Consultants	Email	Gillian Goode	RPS	Email to Darrell to confirm correct address to redirect the draft CHIA.
24/07/2015	David French	Hunter Valley Natural & Cultural Resource Management	Email	Gillian Goode	RPS	Email to David to confirm correct address to redirect the draft CHIA.
27/07/2015	John Matthews	Aboriginal Native Title Consultants	Telephone	Gillian Goode	RPS	John Matthews provided an updated address for Aboriginal Native Title Consultants and the Upper Hunter Heritage Consultants.
27/07/2015	Darrell Matthews	Upper Hunter Heritage Consultants	Post	Steve Peart	Wambo Coal Pty Ltd	Draft CHIA redirected to alternative postal address.
6/08/2015	Margaret Matthews	Aboriginal Native Title Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided.
6/08/2015	Margaret Matthews	Aboriginal Native Title Consultants	Post	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.

DATE	ORGANISATION CONTACTED	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	ORGANISATION REPRESENTED	NATURE OF CONSULTATION
6/08/2015	Patricia Kennedy	AGA Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Kevin Sampson	Bawurra Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Terry Matthews	Breeza Plains Cultural Heritage Consultancy	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided.
6/08/2015	Terry Matthews	Breeza Plains Cultural Heritage Consultancy	Post	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.
6/08/2015	Lloyd Matthews	Bullen Bullen Heritage Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Debbie Foley	Buudang	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided.
6/08/2015	Debbie Foley	Buudang	Post	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.
6/08/2015	Donna Sampson	Cacatua Culture Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Justin Matthews	Carrawonga Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Tracey Skene	Culturally Aware	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Deslee Matthews	Deslee Talbott Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Derrick Vale	DFTV Enterprises	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Helen Faulkner	DRM Cultural Management	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Mervyn Lesley	EMT Cultural & Heritage	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Karen Matthews	Galamaay Consultant	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Ann Hickey	Gidawaa Walang Cultural Heritage Consultancy	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Rodney Matthews	Giwir Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Kerren Boyd	HECMO Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided.
6/08/2015	Kerren Boyd	HECMO Consultants	Post	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.
6/08/2015	Clifford Johnson	Heilamon Cultural Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Paulette Ryan	HTO Environmental Management Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Rhonda Griffiths	Hunter Valley Aboriginal Corporation	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Christine Archbold	Hunter Valley Cultural Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Luke Hickey	Hunter Valley Cultural Surveying	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	David French	Hunter Valley Natural & Cultural Resource Management	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Ivy Jaeger	I&E Aboriginal Culture and Heritage	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Les Atkinson	Janbant Mugreba	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Arthur Fletcher	Kauwul (Wonn1)	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Vicky Slater	Kawul Cultural Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Mark Hickey	Kayaway Eco Cultural & Heritage Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Krystal Saunders	KL.KG Saunders Trading Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Les Field	U Cultural Management	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	David Ahoy	Lower Hunter Aboriginal Incorporated	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Tom Miller	Lower Hunter Wonnarua Cultural Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Maree Waugh	Maree TA/ Wallangan Cultural Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.

DATE	ORGANISATION CONTACTED	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	ORGANISATION REPRESENTED	NATURE OF CONSULTATION
6/08/2015	Clifford Matthews	Minnga Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Susan Cutmore	Moreeites	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Incorrect phone number.
6/08/2015	Brian Horton	Muswellbrook Cultural Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Warren Schillings	Myland Cultural Heritage Group	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided via email.
6/08/2015	Warren Schillings	Myland Cultural Heritage Group	Email	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.
6/08/2015	Jeffery Matthews	Jeffery Matthews	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Lorraine Towney	Lorraine Towney	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Scott Smith	Scott Smith	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they had no comments on the draft CHIA.
6/08/2015	Roslyn Sampson	Roslyn Sampson	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Jill Green	Jill Green	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Abie Wright	Ngarramang-Kuri Aboriginal Culture & Heritage Group	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Roger Matthews	Roger Matthews	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Timothy Smith	Smith Dhagaans Cultural Group	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Tony Griffiths	T&G Culture Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Tasha Layer	Ungooroo Aboriginal Corporation	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they would call back if they had any comments.
6/08/2015	Rhonda Ward	Ungooroo Cultural & Community Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that she would submit comments by the end of the review period.
6/08/2015	Darrell Matthews	Upper Hunter Heritage Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Rhonda Perry	Upper Hunter Wonnarua Council	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Larry Van Vliet	Valley Culture	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Elizabeth Howard	Waabi Gabinya Cultural Consultancy	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Suzie Worth	Wanaruah Local Aboriginal Land Council	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Advised that they would submit comments by the end of the review period.
6/08/2015	Aaron Slater	Warragil Cultural Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Des Hickey	Wattaka Wonnarua Cultural Consultancy Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided via email.
6/08/2015	Des Hickey	Wonnarua Traditional Owners	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Requested an additional copy be provided via email.
6/08/2015	Des Hickey	Wattaka Wonnarua Cultural Consultancy Services	Email	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.
6/08/2015	Des Hickey	Wonnarua Traditional Owners	Email	Steve Peart	Wambo Coal Pty Ltd	Additional copy of the draft CHIA provided.
6/08/2015	Amanda Hickey	Widescope Indigenous Group	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Gordon Griffiths	Wonnarua Culture Heritage	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Laurie Perry	Wonnarua Nation Aboriginal Corporation	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Kerrie Slater	Wurrumay Consultants	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Phone disconnected.
6/08/2015	Kathleen Steward-Kinchela	Yinarr Cultural Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
6/08/2015	Jenny-Lee Chambers	JLC Cultural Services	Telephone	Wambo Coal Pty Ltd	Wambo Coal Pty Ltd	Called to provide a reminder of the closing date for comments on the draft CHIA and to request any verbal comments. Left message.
14/08/2015	Steve Peart	Wambo Coal Pty Ltd	Letter	Suzie Worth	Wanaruah Local Aboriginal Land Council	Provided comments on the draft CHIA.
14/08/2015	Steve Peart	Wambo Coal Pty Ltd	Letter	Arthur Fletcher	Wonn1 (Kauwul)	Provided comments on the draft CHIA.

Appendix 2

Aboriginal Consultation – Written Responses to and from the Registered Aboriginal Parties (RAPs)



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Fax + 61 (0) 2 6570 2290

18 March 2015

Office of Environment and Heritage
PO Box 488G
NEWCASTLE NSW 2300

Dear Sir/Madam,

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Wambo Coal Pty Ltd (WCPL) owns and operates the Wambo Coal Mine, located approximately 15 kilometres west of Singleton in the Hunter Valley, New South Wales (NSW).

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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 **5.00 pm on Monday 6 April 2015** to WCPL via the following contact details:

Wambo Coal Pty Ltd
C/- Danielle Wallace
PO Box 1842, Milton QLD 4064
Mobile: 0414 833 397
Email: southbatesacha@gmail.com

WCPL 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.

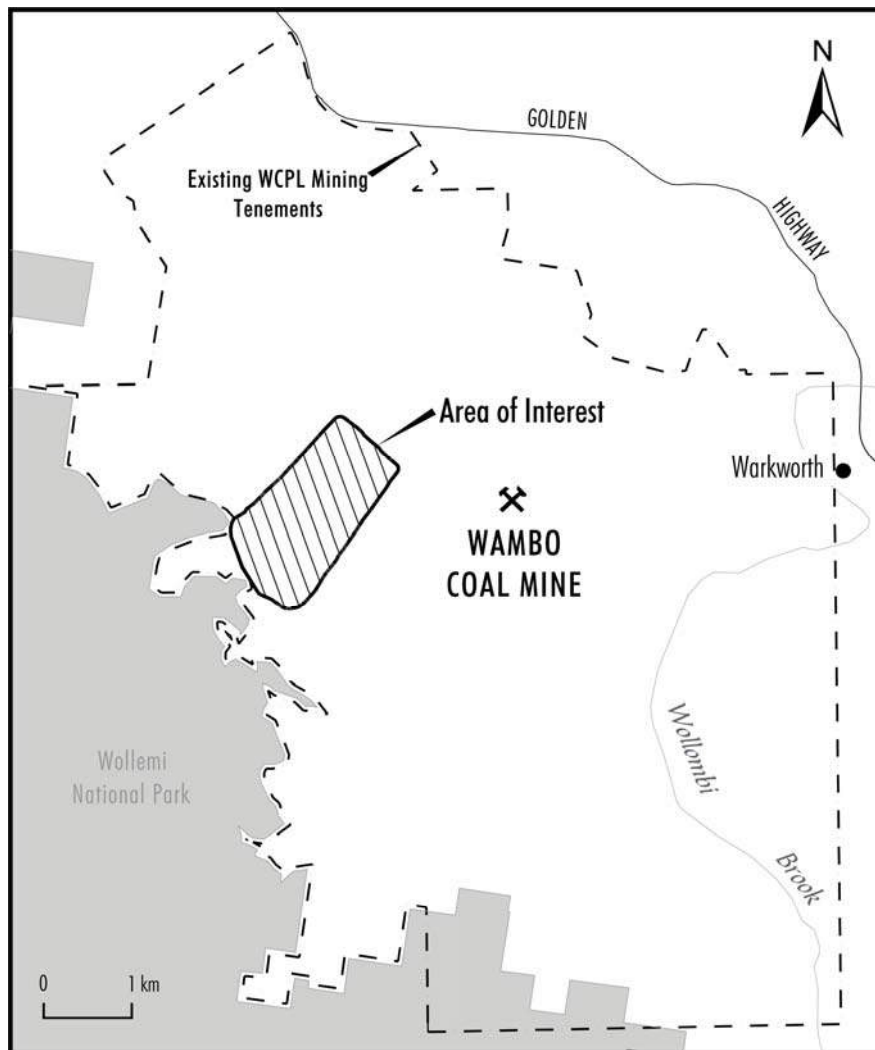
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Yours faithfully,



Troy Favell
Environment and Community Manager
WAMBO COAL PTY LTD

Plan Showing "Area of Interest"





WAMBO COAL PTY LTD

ABN: 13 000 668 057

Level 13, BOQ Centre
259 Queen Street
Brisbane, Queensland 4000
PMB 1
Singleton, NSW 2330
Australia
Tel + 61 (0) 2 6570 2200
Fax + 61 (0) 2 6570 2290

18 March 2015

Singleton Shire Council
PO Box 314
SINGLETON NSW 2300

Dear Sir/Madam,

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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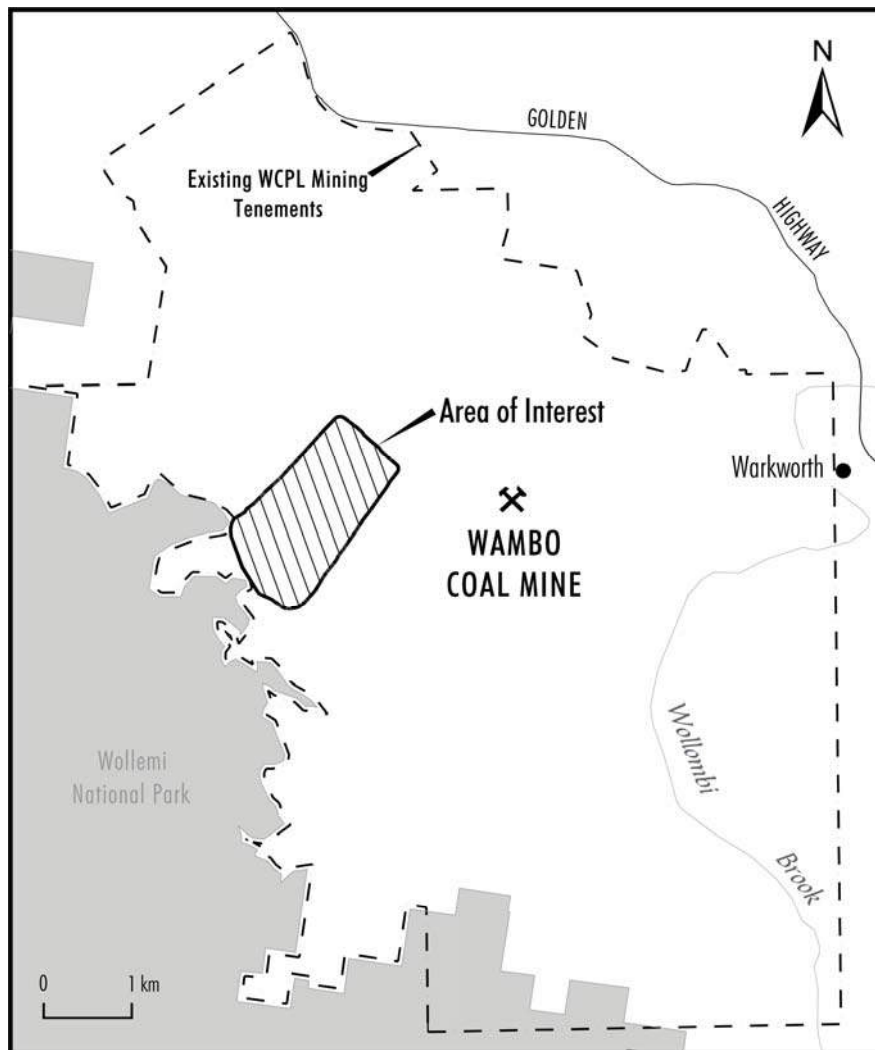
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Troy Favell
Environment and Community Manager
WAMBO COAL PTY LTD

Plan Showing "Area of Interest"





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Singleton, NSW 2330
Australia
Tel + 61 (0) 2 6570 2200
Fax + 61 (0) 2 6570 2290

18 March 2015

Hunter Local Land Services
98 John Street
SINGLETON NSW 2330

Dear Sir/Madam,

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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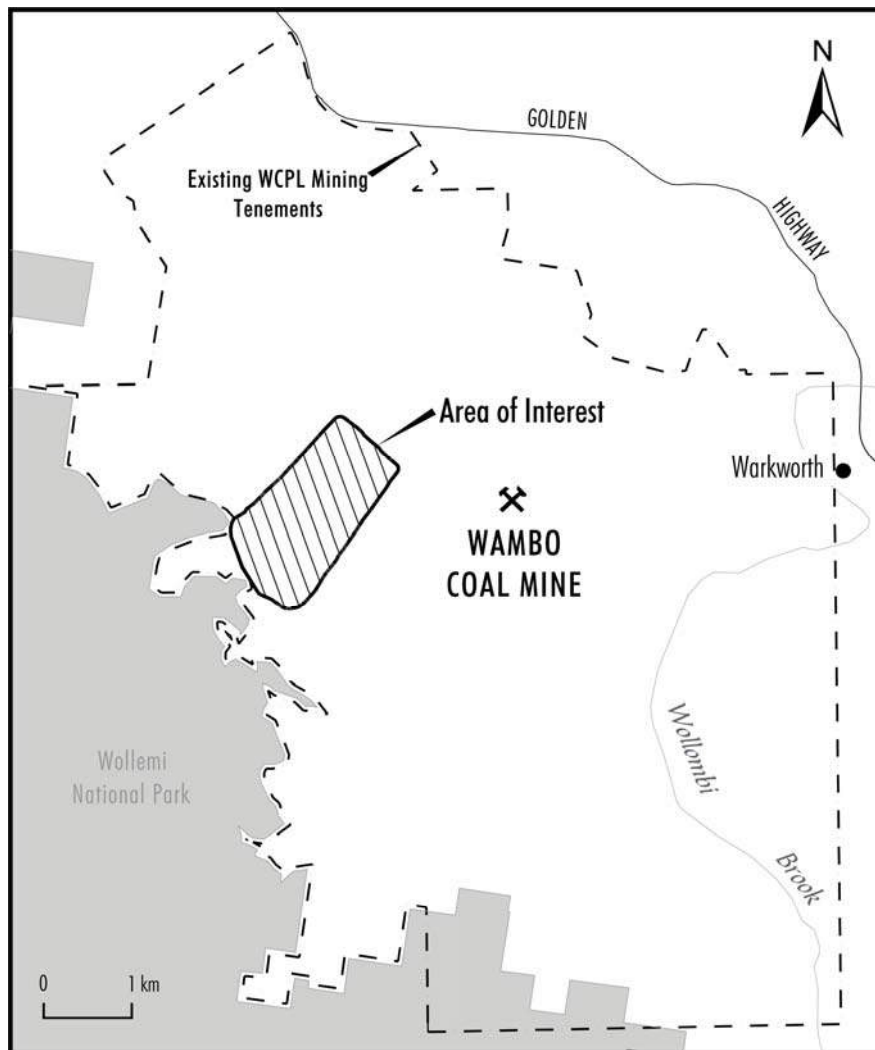
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Yours faithfully,



Troy Favell
Environment and Community Manager
WAMBO COAL PTY LTD

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259 Queen Street
Brisbane, Queensland 4000
PMB 1
Singleton, NSW 2330
Australia
Tel + 61 (0) 2 6570 2200
Fax + 61 (0) 2 6570 2290

18 March 2015

Wanaruah Local Aboriginal Land Council
PO Box 127
MUSWELLBROOK NSW 2333

Attention: Noel Downs

Dear Noel,

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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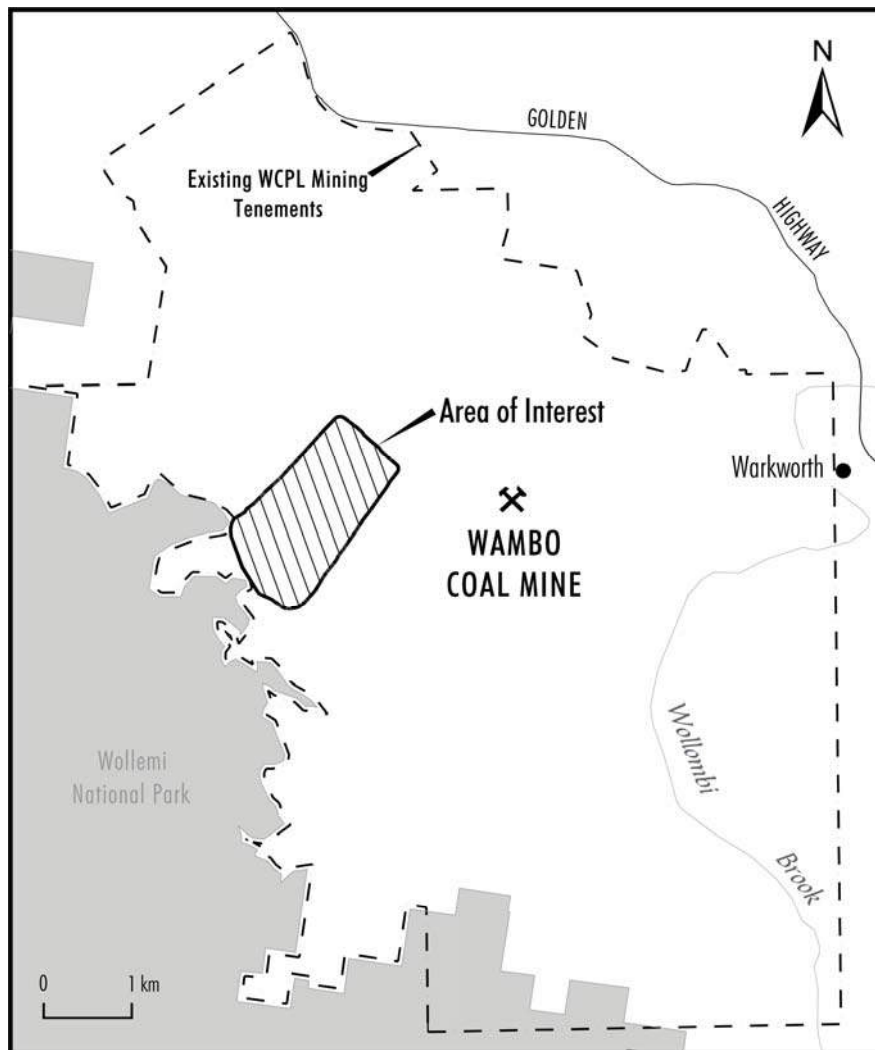
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Brisbane, Queensland 4000
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Singleton, NSW 2330
Australia
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Fax + 61 (0) 2 6570 2290

18 March 2015

Native Title Services Corporation Limited
PO Box 2105
STRAWBERRY HILLS NSW 2012

Dear Sir/Madam,

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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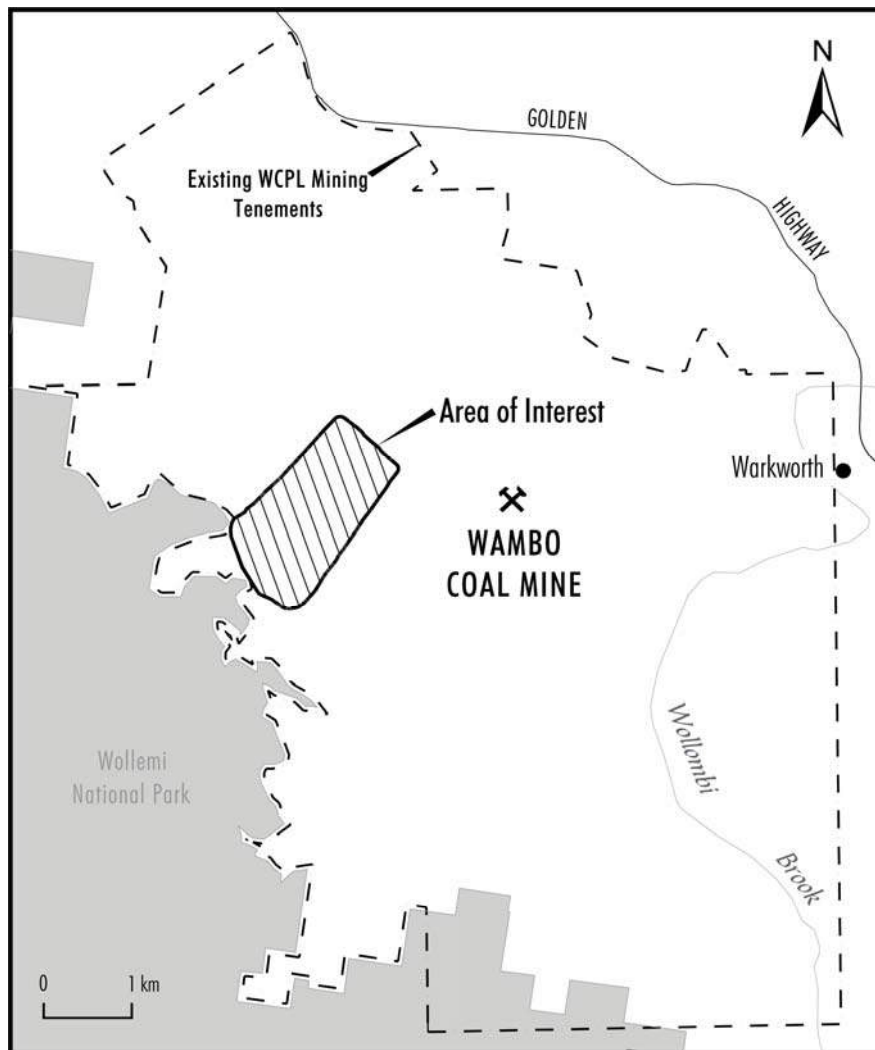
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Australia
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18 March 2015

National Native Title Tribunal
NSW & ACT Registry
GPO Box 9973
SYDNEY NSW 2001

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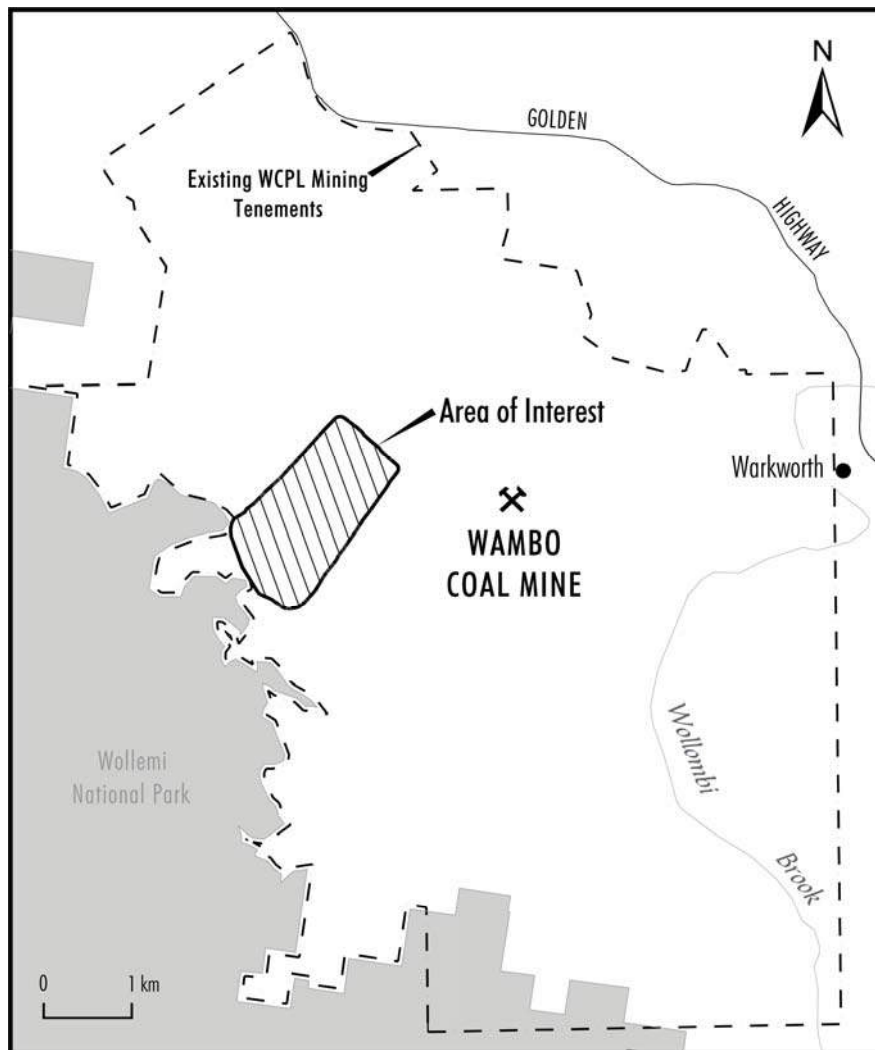
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259 Queen Street
Brisbane, Queensland 4000
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Singleton, NSW 2330
Australia
Tel + 61 (0) 2 6570 2200
Fax + 61 (0) 2 6570 2290

18 March 2015

The Registrar
Office of the Registrar, Aboriginal Land Rights Act 1983
PO Box 112
GLEBE NSW 2037

Dear Sir/Madam,

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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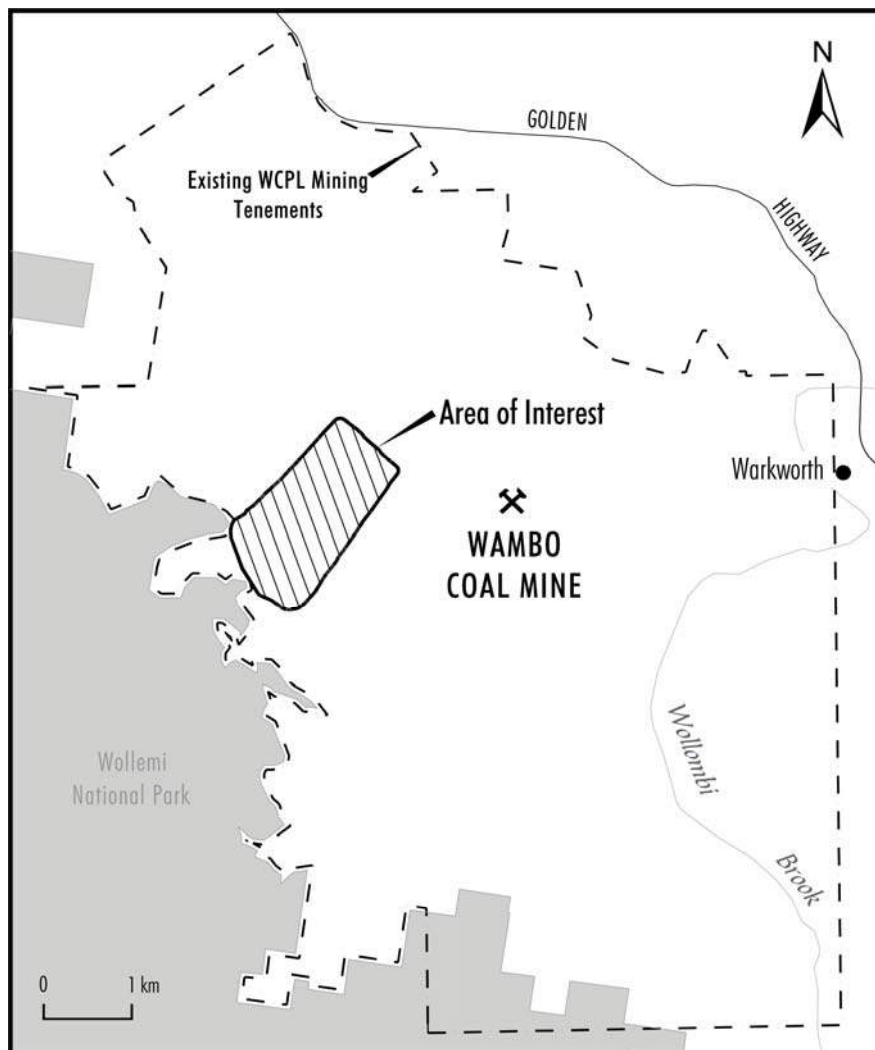
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WAMBO COAL PTY LTD

Plan Showing “Area of Interest”



Subject: OEH Aboriginal Stakeholder list for Wambo Coal Mine South Bates Modification - ACH Assessment
Attachments: DOC14 31646 Wonnarua - Attachment A - Aboriginal parties in the Area of Interest.DOC

From: Nicole Davis [<mailto:Nicole.Davis@environment.nsw.gov.au>]

Sent: Tuesday, 24 March 2015 11:38 AM

To: southbatesacha@gmail.com

Subject: OEH Aboriginal Stakeholder list for Wambo Coal Mine South Bates Modification - ACH Assessment

Importance: High

Hi Danni,

OEH RAP list as requested for Wombo South Bates Mod.

Please ring me or email should you require any further information, mobile is best as often out in the field.

Cheers

Nicole

Nicole Y Davis
Archaeologist - Planning
Hunter Central Coast Region
Office of Environment & Heritage
NSW Department of Planning and Environment
Level 2, 117 Bull Street
PO Box 488G Newcastle 2300
T: 02 4908 6825
M: 0409 394 343
W: nicole.davis@environment.nsw.gov.au

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately.

Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

**Attachment A: ABORIGINAL PARTIES IN THE AREA OF INTEREST
(OTHER THAN LOCAL ABORIGINAL LAND COUNCILS)**

1. Aboriginal Native Title Elders Consultants
Margaret Matthews
16a Mahogany Street
MUSWELLBROOK NSW 2333
Mob: 0417 725 956

2. Alieria French Trading
12 Haydon Street
MUSWELLBROOK NSW 2333
Ph: 02 6541 2756
Mob: 0421 299 963
Alieria.french.trading@hotmail.com

- 3 Alison Sampson
36 Hill Street
CAROONA NSW 2343
Mob: 0401 151 124 or 0434 642 004
Alliekat29@hotmail.com

4. Black Creek Aboriginal Corporation
Tracey White
PO Box 168
KURRI KURRI NSW 2327
Ph: 02 4990 6747
blackcreek@idl.net.au

5. Bullen Bullen
Lloyd Mathews
16B Mahogany Avenue
MUSWELLBROOK NSW 2333
Mob: 0417 725 956

6. Cacatua Culture Consultants
Donna & George Sampson
Unit 1B 11 Glenwood Drive
THORNTON NSW 2322
Ph: 02 4028 6942
Fax: 02 4028 6943
Mob: 0403 765 019 or 0434 877 016
cacatua@resetdsl.net.au

7. Carrawonga Consultants
Cheryl Moodie & Justin Matthews
11 Coolibah Close
MUSWELLBROOK NSW 2333
Mob: 0411 958 511 or 0401 154 328

8. Culturally Aware
Tracey Skene
7 Crawford Place
MILFIELD NSW 2325

9. D F T V Enterprises
Derrick Vale Snr
5 Mountbatten Close
RUTHERFORD NSW 2320
Mob: 0438 812 197
deckavale@hotmail.com
10. Deslee Talbott Consultants
Deslee Matthews
Unit 2 / 19 South Street
GUNNEDAH NSW 2380
Mob: 0431 205 336
11. Devine Diggers Aboriginal Cultural Consultants
Deidre Perkins
6 Ashleigh Street
HEDDON GRETA NSW 2321
Ph: 02 4937 4573
Mob: 0425 654 290
divinediggers@bigpond.com
12. DRM Cultural Management
Helen Faulkner
81 Wansbeck Valley Road
CARDIFF NSW 2285
Mob: 0412 369 661
13. Esther Tighe
1/86 Edward Street
GUNNEDAH NSW 2380
Ph: 02 6742 7105
Fx: 02 6742 2125
Mob: 0422 648 350
14. Gidawaa Walang & Barkuma Neighbourhood Centre Inc.
Debbie Dacey-Sullivan
76 Lang Street
KURRI KURRI NSW 2327
Ph: 02 4937 1094
Mob: 0411 196 991
barkuma@hotmail.com
15. Giwiirr Consultants
Michele Stair
8 Fitzgerald Avenue
MUSWELLBROOK NSW 2333
Ph: 02 6541 0506
Mob: 0432 214 402
16. Griffiths Group
Priscilla Priestley
7 Yeoman Avenue
METFORD NSW 2333
Mob: 0422 651 752

17. HECMO Consultants
Kerren Boyd
Lot 136 Main Street
BREEZA NSW 2381
Mob: 0402 865 400
Chook7262@hotmail.com
18. Hielamon Cultural Consultants
Clifford Johnson
16B Mahogany Drive
MUSWELLBROOK NSW 2333
Mob: 0478 828 745
19. HSB Heritage Consultants
Patricia Hampton
35 Larool Street
STH TAMWORTH NSW 2340
Mob: 0424 142 216
pamelaann@live.com.au
20. Hunter Traditional Owner
Paulette Ryan
14 Barton Avenue
SINGLETON HEIGHTS
Ph: 02 6574 4906
Mob: 0432 672 273
21. Hunter Valley Aboriginal Corporation
Rhonda Griffith
PO Box 579
MUSWELLBROOK NSW 2333
22. Hunter Valley Cultural Consultants
Christine Matthews
40 Humphries Street
MUSWELLBROOK NSW 2333
Ph: 02 6543 4521
Mob: 0438 390 882
23. Hunter Valley Cultural Surveying
Luke Hickey
165 Susan Street
SCONE NSW 2337
Ph: 02 6541 0525
Mob: 0402 446 223 or 0423 960 690
hvcs@bigpond.com
24. Hunter Valley Natural & Cultural Resources
David French
Flat 1 / 72-11 Tindale Street
MUSWELLBROOK NSW 2333
Mob: 0413 242 613
25. Hunters & Collectors
Tania Matthews
2/23 Reid Street
NARRABRI NSW 2390
Ph: 02 6779 24038
Tamatthews10@hotmail.com

26. I & E Aboriginal Culture and Heritage
Ivy Jaeger
1/162 Myall Road
CARDIFF NSW 2285
Mob: 0402 943 540
le.aboriginalcultureandheritage@hotmail.com
27. Jarban & Mugrebea
Les Atkinson
11 Nelson Street
CESSNOCK NSW 2325
Mob; 0402 353 317
Les.atkinson@hotmail.com
28. Jeff Matthews
6 Eucalypt Avenue
MUSWELLBROOK NSW 2333
Ph: 02 6543 4791
29. JLC Cultural Services
Jenny Lee Chambers
39 Goulburn Drive
SANDY HOLLOW NSW 2333
Mob: 0432 087 829
30. Jumbunna Traffic Management Group Pty Ltd
Norm Archibald
27 Margaret Street
TERALBA NSW 2284
Ph: 02 4965 8105
jtmanagement@live.com.au
31. Kauma Pondee Inc.
Jill green
Unit 6 / 1 Central Street
NEW LAMBTON NSW 2305
Mob: 0434 210 190
greenie@live.com
323. Kawul Cultural Services
Vicky Slater
PO Box 817
SINGLETON NSW 2330
Mob: 0431 720 887
Kawul-Culturalservices@hotmail.com
33. KL KG Saunders Trading services
Krystal & Kylie Saunders
6 Bowfield Place
MUSWELLBROOK NSW 2333
Mob: 0412 693 952 or 0434 553 307
34. Lorraine Towney
32 Dewhurst Street
QUIRINDI NSW 2343
Mob: 0403 427 894

35. Lower Hunter Aboriginal Incorporated
Les Ahoy
74 Hayden Brook Road
BOORAGUL NSW 2284
Mob: 0411 095 249
Lowerhunterai@gmail.com
36. Lower Hunter Wonnarua Council Inc.
Lea-Anne Ball Uncle Tommy Miller
51 Bowden Street
HEDDON GRETA NSW 2321
Ph: 02 4937 2694
Mob: 0447 26 590 (LM) or 0402 636 521 (Uncle)
tn.miller@southernphone.com.au or lea-anne.ball@bigpond.com
37. Lower Wonnaruah Tribal Consultancy Pty Ltd
Barry Anderson
156 The Inlet Road
BULGA NSW 2330
Mob: 0417 403 153
Barry156@bigpond.com
38. Michelle Saunders
24 Walhallow Village
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20 March 2015 ref: OE&H : 20-3-2015/1

Wambo Coal Pty Ltd
c/- Danielle Wallace
PO BOX 1842
Milton Qld 4064

Dear Sir or Madam

Aboriginal Cultural Heritage Assessment

Wambo Coal Mine South Bates Modification- 15 kms west of Singleton

I refer to your letter of 18 March 2015 regarding the above matter.

We acknowledge that section 4.1.2 of the Office of Environment & Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* require you to contact us in order to compile a list of Aboriginal people who may have an interest in the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places.

However, we advise that NTSCORP's privacy guidelines restrict us from providing proponents with contact details of traditional owners who may have such an interest or hold such knowledge.

Please be advised that, in response to your notification, we will forward your correspondence to any individuals, groups and organisations whom NTSCORP is aware assert traditional interests within or hold cultural knowledge about the relevant area. Recipients of our correspondence will be invited to register their interest in the project directly with you by 6 April 2015.

Please be aware that NTSCORP cannot make a guarantee or undertaking that the recipients of our correspondence represent the entirety of traditional owners for the relevant area.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "G. Tonna", written over the printed name and title.

George Tonna
Land & Notifications Officer
NTSCORP Limited

From: Drake, Dianne [Dianne.Drake@nntt.gov.au]
Sent: Wednesday, 25 March 2015 2:30 PM
To: southbatesacha@gmail.com
Subject: RE: NNTT Search results [SEC=UNCLASSIFIED]
Attachments: eLetter - Search results [Dianne].pdf

UNCLASSIFIED

Sorry Danielle
I think I forgot the letter that accompanies the search results.
Regards
Dianne

Dianne Drake
Case Manager
Sydney Office
02 9227 4007
dianne.drake@nntt.gov.au
Shared country, shared future.

From: Drake, Dianne
Sent: Wednesday, 25 March 2015 3:04 PM
To: 'southbatesacha@gmail.com'
Subject: NNTT Search results [SEC=UNCLASSIFIED]

UNCLASSIFIED

Danielle
I have attached the search results regarding native title applications. If you have any questions please contact me directly.
Regards
Dianne

Dianne Drake
Case Manager
Sydney Office
02 9227 4007
dianne.drake@nntt.gov.au
Shared country, shared future.



National
Native Title
Tribunal

25 March 2015

Wambo Coal Pty Ltd
Danielle Wallace
PO BOX 1842
WILTON QLD 4064

Operations East, Sydney Office

Level 16, Law Courts Building,
Queens Square
Sydney NSW 2000
GPO Box 9973
Sydney NSW 2000
Telephone (02) 9227 4000
Facsimile (02) 9227 4030

Our Reference: Wambo Coal Mine Aboriginal Heritage

Your Reference: 5020

Dear Ms Wallace

Native Title Search Results for Singleton Local Government Area

Thank you for your search request received on 23 March 2015 in relation to the above area.

Search Results

The results provided are based on the information you supplied and are derived from a search of the following Tribunal databases:

Register Type	NNTT Reference Numbers
Schedule of Applications (unregistered claimant applications)	Nil
Register of Native Title Claims	NC2011/006 NC2012/004 NC2012/005
National Native Title Register	Nil
Register of Indigenous Land Use Agreements	Nil
Notified Indigenous Land Use Agreements	Nil

I have included a register extract and attachments for the Gomaroi People and a NNTT Registers fact sheet to help guide your understanding of the search result.

Please note that there may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed in the Federal Court may not appear on the Tribunal's databases.

The search results are based on analysis against external boundaries of applications only. Native title applications commonly contain exclusions clauses which remove areas from within the external boundary. To determine whether the areas described are in fact subject to claim, you need to refer to "Area covered by claim" section of the relevant Register Extract or Application Summary and any maps attached.

Search results and the existence of native title

Please note that the enclosed information from the Register of Native Title Claims and/or the Schedule of Applications is **not** confirmation of the existence of native title in this area. This cannot be confirmed until the Federal Court makes a determination that native title does or does not exist in relation to the area. Such determinations are registered on the National Native Title Register.

Tribunal accepts no liability for reliance placed on enclosed information

The enclosed information has been provided in good faith. Use of this information is at your sole risk. The National Native Title Tribunal makes no representative, either express or implied, as to the accuracy or suitability of the information enclosed for any particular purpose and accepts no liability for use of the information or reliance placed on it.

If you have any further queries, please contact me on 1800 640 501.

Yours sincerely



Dianne Drake | CASE MANAGER

National Native Title Tribunal | Sydney Office, Operations East

Telephone (02) 9227 4007 | Facsimile (02) 9227 4030 | Email dianne.drake@nntt.gov.au

Freecall 1800 640 501 | www.nntt.gov.au

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Encl: Register extract and attachments



Searching the NNTT Registers in New South Wales

Search service

On request the National Native Title Tribunal will search its public registers for you. A search may assist you in finding out whether any native title applications (claims), determinations or agreements exist over a particular area of land or water.

In New South Wales native title cannot exist on privately owned land including family homes or farms.

What information can a search provide?

A search can confirm whether any applications, agreements or determinations are registered in a local government area. Relevant information, including register extracts and application summaries, will be provided.

In NSW because we cannot search the registers in relation to individual parcels of land we search by local government area.

Most native title applications do not identify each parcel of land claimed. They have an external boundary and then identify the areas not claimed within the boundary by reference to types of land tenure e.g., freehold, agricultural leasehold, public works.

What if the search shows no current applications?

If there is no application covering the local government area this only indicates that at the time of the search either the Federal Court had not received any claims in relation to the local government area or the Tribunal had not yet been notified of any new native title claims.

It does not mean that native title does not exist in the area.

Native title may exist over an area of land or waters whether or not a claim for native title has been made.

Where the information is found

The information you are seeking is held in three registers and on an applications database.

National Native Title Register

The National Native Title Register contains determinations of native title by the High Court, Federal Court and other courts.

Register of Native Title Claims

The Register of Native Title Claims contains applications for native title that have passed a registration test.

Registered claims attract rights, including the right to negotiate about some types of proposed developments.

Register of Indigenous Land Use Agreements

The Register of Indigenous Land Use Agreements contains agreements made with people who hold or assert native title in an area.

The register identifies development activities that have been agreed by the parties.

Schedule of Native Title Applications

The Schedule of Native Title Applications contains the description of the location, content and status of a native title claim.

This information may be different to the information on the Register of Native Title Claims, e.g., because an amendment has not yet been tested.

How do I request a native title search?

Download the Search Request Form from the Tribunal's website at -

<http://www.nntt.gov.au/assistance/Pages/Search-es-and-providing-Register-information.aspx>

Email to: NSWEnquiries@nntt.gov.au

Post to: GPO Box 9973 Sydney NSW 2001

For additional enquiries: 02 9227 4000

Extract from Schedule of Native Title Applications

Application Reference: Federal Court number: NSD1680/2013
NNTT number: NC2013/006

Application Name: Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People

Application Type: Claimant

Application filed with: Federal Court of Australia

Date application filed: 19/08/2013

Current stage(s): Pre-notification

Registration information: Please refer to the Register of Native Title Claims/National Native Title Register (as appropriate) for registered details of this application.

Registration decision status: Currently identified for Reg. Decision

Registration history: -

Applicants: Scott McCain Franks, Robert John Lester

Address(es) for Service: Scott McCain Franks and Robert John Lester
17 River Road
Emu Plains NSW 2750
Phone: 0415 787 844

Additional Information

Not applicable

Persons claiming to hold native title:

The members of the native title claim group are the biological descendants of

(a) Emily (who was born in approximately 1840, and was the mother of Henry Frederick Taggart who was born in Howes Valley, Broke in 1859 and who died on 5 March 1941 in the district of Singleton); and

(b) Mary Shoe (who was born approximately 1800 in the Singleton district, and who was the mother

of Matilda Hughes who was born 1832 at Sydenham near Singleton, who married James Arthur Smith on 28 December 1856 at Fallbrook and who died on 5 October 1913 at Bridgeman, Patricks Plains Shire).

Native title rights and interests claimed:

1. Over areas where a claim to exclusive possession can be recognised (such as where there has been no prior extinguishment of native title, or where ss.47, 47A or 47B apply), the native title claim group claims the right to possess occupy, use and enjoy the lands and waters of the application area as against the whole world, pursuant to the traditional laws and customs of the claim group.
2. Over areas where a claim to exclusive possession cannot be recognised, the native title claim group claims the following rights and interests:
 - (a) the right to access the application area;
 - (b) the right to camp on the application area;
 - (c) the right to erect shelters on the application area;
 - (d) the right to live on the application area;
 - (e) the right to move about the application area;
 - (f) the right to hold meetings on the application area;
 - (g) the right to hunt on the application area;
 - (h) the right to fish on the application area;
 - (i) the right to use the natural water resources of the application area including the beds and banks of the watercourses;
 - (j) the right to gather the natural products of the application area (including: food, medicinal plants, timber, stone, ochre and resin) according to traditional laws and customs;
 - (k) the right to conduct ceremony on the application area;
 - (l) the right to participate in cultural activities on the application area;
 - (m) the right to maintain places of importance under traditional laws, customs and practices in the application area;
 - (n) the right to protect places of importance under traditional laws, customs and practices in the application area;
 - (o) the right to conduct burials on the application area;
 - (p) the right to speak for and make non-exclusive decisions about the application area;
 - (q) the right to cultivate and harvest native flora according to traditional laws and customs; and
 - (r) the right to control access to, and use of, the area by those Aboriginal people who seek access or use in accordance with traditional law and custom.
3. The native title rights and interests are subject to and exercisable in accordance with:
 - (a) the laws of the State of New South Wales and the Commonwealth of Australia;
 - (b) the rights (past or present) conferred upon persons pursuant to the laws of the commonwealth and the laws of the state of New South Wales; and
 - (c) the traditional laws acknowledged and the traditional customs observed by the native title claim group.

Application Area:

State/Territory: New South Wales

Brief Location: The claim encompasses the Hunter Valley, west of Newcastle, extending generally north-westerly to the Upper Hunter and the Liverpool Ranges to Murrurundi, and southerly to the Hunter Range past Cessnock.

Primary RATSIB Area: New South Wales

Approximate size: 11358.0149 sq km

(Note: There may be areas within the external boundary of the application that are not claimed.)

Does Area Include Sea: No

Area covered by the claim (as detailed in the application):

External boundary description

The application area covers all the land and waters within the external boundary described as:

Commencing at the intersect of the southern boundary of the Namoi Catchment and Longitude 150.533544° East and extending generally easterly and generally north easterly along that catchment boundary to the southern boundary of the New England Highway, at Nowlands Gap; then generally south easterly along that boundary to the western bank of the Pages River; then generally south easterly and generally southerly along that bank to the northern boundary of Miranee Road; then generally southerly along that boundary to the northern boundary of Hunter Road; then generally easterly along that boundary to the southern bank of Stewarts Brook; then generally easterly along that bank to its headwaters at Longitude 151.403010° East, Latitude 32.037800° South and onwards to the eastern boundary of the Hunter River catchment at Latitude 32.038192° South; then generally southerly along that catchment boundary to Longitude 151.407614° East; then south easterly to the headwaters of the Patterson River at Longitude 151.409652° East, Latitude 32.047240° South; then generally southerly along the centreline of the Patterson River (passing through Lostock Dam) and onwards to the southern bank of the Hunter River, being the easternmost corner of Lot 1 on DP520557; then generally westerly along that bank to the eastern bank Wallis Creek; then generally southerly along of that bank to the south eastern boundary of Louth Park Road; then generally south westerly and generally south easterly along that boundary to the north western boundary of Buchanan Road; then generally south westerly, generally westerly, again generally south westerly and generally southerly along of that boundary, an unnamed road, George Booth Drive, Richmond Vale Road, Maitland Road and Leggetts Drive (Freemans Drive) to the northeast corner of Lot 21 on DP811883; then generally westerly along the northern boundary of that lot, Lot 7002 on DP93611, Gills Lane and unnamed road to the south western corner of Lot 820 on DP1165469; then southerly, westerly and generally southerly along the western boundaries of Lot 99 on DP755244, Lot 109 on DP755244, Heaton State Forest and Lot 53 on DP755244 to the centreline of Wallis Creek; then generally southerly and generally south westerly along that centreline to Longitude 151.427251° East; then southerly to the southwest corner of Lot 115 on DP755244 and onwards to the southern boundary of Hunter River catchment; then generally south westerly along that southern boundary to Longitude 151.348681° East; then northwest to the headwaters of Watagan Creek at Longitude 151.345650° East, Latitude 33.039180° South; then generally westerly along the centreline of Watagan Creek to the centreline of Wollombi Brook; then generally south easterly along that centreline to the centreline of Fernances Creek; then generally south westerly along that centreline to its headwaters at Longitude 151.098910° East, Latitude 33.074560° South; then south westerly to the headwaters of Mogo Creek at Longitude 151.094420° East, Latitude 33.083870° South; then generally south westerly along the centreline of that creek to the centreline of the Macdonald River; then generally north westerly and generally northerly along that centreline to its headwaters at Longitude 150.585770° East, Latitude 32.745510° South; then south westerly to the headwaters of an unnamed creek at Longitude 150.575770° East, Latitude 32.748320° South; then generally northerly along the centreline of that unnamed creek to the centreline of Martindale Creek at Longitude 150.583610° East; then generally easterly along that centreline to Longitude 150.523690 East; then northerly to the headwaters of Baerami Creek at Longitude 150.523500° East, Latitude 32.676180° South; then generally northerly along the centreline of that creek to the centreline of the Goulburn River; then generally north easterly along that centreline to the centreline of Worondi Rivulet; then generally northerly along that centreline to its headwaters at Longitude 150.449900° East, Latitude 32.062900° South; then north easterly and generally northerly along a spur and ridge top, through Diamond Mountain, Ten Mole Mountain, Leards Gap and Square Top back to the commencement point.

Attachments:

1. Attachment B2 areas not covered by the application, 1 page - A4, 19/08/2013
2. Attachment C Map, 1 page - A4, 19/08/2013
3. Attachment B1 area covered by the application, 2 pages - A4, 19/08/2013

NNTT Contact Details

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Telephone: (02) 9227 4000
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Fax: (02) 9227 4030
Web Page: www.nntt.gov.au

End of Extract

NSD1680/2013 Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People – (NC2013/006)

External boundary description

The application area covers all the land and waters within the external boundary described as:

Commencing at a point on the southern bank of the Pages River, also being a north western corner of Lot 11 on DP626664, and extending generally north easterly and generally south easterly and generally southerly along that bank to the northern boundary of Miranee Road; then generally southerly along that boundary to the northern boundary of Hunter Road; then generally easterly along that boundary to the southern bank of Stewarts Brook; then generally easterly along that bank to its headwaters at Longitude 151.403010° East, Latitude 32.037800° South and onwards to the eastern boundary of the Hunter River catchment at Latitude 32.038192° South; then generally southerly along that catchment boundary to Longitude 151.407614° East; then south easterly to the headwaters of the Patterson River at Longitude 151.409652° East, Latitude 32.047240° South; then generally southerly along the centreline of the Patterson River (passing through Lostock Dam) and onwards to the southern bank of the Hunter River, being the easternmost corner of Lot 1 on DP520557; then generally westerly along that bank to the eastern bank of Wallis Creek; then generally southerly along that bank to the south eastern boundary of an unnamed road reserve being a prolongation of Louth Park Road; then generally south westerly and generally south easterly along the boundaries of those roads to the north western boundary of Buchanan Road; then generally south westerly, generally westerly, again generally south westerly and generally southerly along of that boundary, an unnamed road, George Booth Drive, Richmond Vale Road, Maitland Road and Leggetts Drive (Freemans Drive) to the northeast corner of Lot 21 on DP811883; then generally westerly along the northern boundary of that lot, Lot 7002 on DP93611, Gills Lane and unnamed road to the south western corner of Lot 820 on DP1165469; then southerly, westerly and generally southerly along the western boundaries of Lot 99 on DP755244, Lot 109 on DP755244, Heaton State Forest and Lot 53 on DP755244 to Wallis Creek; then generally southerly and generally south westerly along the centreline of that creek to Longitude 151.427251° East; then southerly to the southwest corner of Lot 115 on DP755244 to intersect the southern boundary of the Hunter River

catchment; then generally south westerly along that southern boundary to Longitude 151.348681° East; then northwest to the headwaters of Watagan Creek at Longitude 151.348593° East, Latitude 33.043104° South; then generally westerly along the centreline of Watagan Creek to Wollombi Brook; then generally south easterly along the centreline of that brook to Fernances Creek; then generally south westerly along the centreline of that creek to its headwaters at Longitude 151.098910° East, Latitude 33.074560° South; then southerly to a point on the southern boundary of Hunter River catchment at Longitude 151.097259° East; then generally westerly and generally northerly along that catchment boundary to Latitude 33.076127° South; then generally westerly and generally northerly to a point again on the southern boundary of Hunter River catchment Latitude 32.922318° South, passing through the following coordinated points.

Longitude ° East	Latitude ° South
151.038001	33.075602
150.979054	33.034372
150.967330	33.207700
150.943839	33.022973
150.915353	33.018197
150.886867	33.016832
150.852475	33.014331
150.834462	32.999405
150.834462	32.962365
150.841271	32.936566

Then generally northerly and generally westerly along the southern boundary of that catchment area to Longitude 150.582247° East, Latitude 32.746250° South; then south westerly to the headwaters of an unnamed creek at Longitude 150.575770° East, Latitude 32.748320° South; then generally northerly along the centreline of that unnamed creek to Martindale Creek; then generally westerly along the centreline of that creek and an unnamed creek to Longitude 150.523690° East; then northerly to the headwaters of Baerami Creek at Longitude 150.523500° East, Latitude 32.676180° South; then generally northerly along the centreline of that creek to the Goulburn River; then generally north easterly along the centreline of that river to the Worondi Rivulet; then generally northerly along the centreline of that rivulet to Latitude 32.302770° South; then generally northerly and generally north easterly back to the commencement point, passing through the following coordinate points.

Longitude ° East	Latitude ° South
150.502904	32.275093
150.549670	32.182977
150.574377	32.161718
150.598202	32.135240
150.652910	32.125544
150.668794	32.065873
150.680265	32.049837
150.722178	32.032116
150.737178	31.985805
150.818359	31.933518
150.863959	31.908708
150.884154	31.886843
150.895066	31.860965
150.900115	31.860826
150.903372	31.860411
150.925196	31.840622

Exclusions:

This application excludes land and waters subject to the following Native Title Determination Applications:

- NSD1093/12 - Plains Clans of the Wonnarua People #2 (NC2012/004) as accepted for registration 14/09/2012.
- NSD1169/12 - Wonnarua Traditional Custodians (NC2012/005) as accepted for registration 14/09/2012.
- NSD788/13 – Wonnarua Traditional Custodians (NC2013/003) as accepted for registration 13/05/2013.
- NSD781/13 - Plains Clans of the Wonnarua People (NC2013/004) as accepted for registration 13/05/2013.

Note**Data Reference and source**

- Application boundary data compiled by National Native Title Tribunal based on information sourced from Tocomwall.
- Cadastre data sourced from from Public Sector Mapping Agency (November 2010).
- Rivers / Creeks and Roads based on casement data, where available; else Topographic image data © Commonwealth of Australia and is used under licence from Geoscience Australia, 2008, SIX maps by NSW Land & Property Information and the NSW Natural Resource Atlas.
- Catchment boundaries sourced from the NSW Natural Resource Atlas.

Reference datum

Geographical coordinates have been provided by the NNTT Geospatial Services and are referenced to the Geocentric Datum of Australia 1994 (GDA94), in decimal degrees and are based on the spatial reference data acquired from the various custodians at the time

Use of Coordinates

Where coordinates are used within the description to represent cadastral or topographical boundaries or the intersection with such, they are intended as a guide only. As an outcome to the custodians of cadastral and topographic data continuously recalculating the geographic position of their data based on improved survey and data maintenance procedures, it is not possible to accurately define such a position other than by detailed ground survey.

Prepared by Geospatial Services, National Native Title Tribunal (9 July 2014)

ATTACHMENT B2 – “ANY AREAS WITHIN THOSE BOUNDARIES THAT ARE NOT COVERED BY THE APPLICATION”

- (1) The external boundaries of the area covered by the application are described in Attachment B1.
- (2) Subject to (4) and (5) below, the area covered by the application excludes any land or waters covered by:
 - (a) a scheduled interest;
 - (b) a freehold estate;
 - (c) a commercial lease that is neither an agricultural lease nor a pastoral lease;
 - (d) an exclusive agricultural lease or a exclusive pastoral lease;
 - (e) a residential lease;
 - (f) a community purposes lease;
 - (g) a lease dissected from a mining lease as referred to in s238(2)(vii); or
 - (h) any lease (other than a mining lease) that confers a right of exclusive possession over particular land or waterswhich was validly vested or granted on or before 23 December 1996.
- (3) Subject to (4) and (5) below, the area covered by the application also excludes any area
 - (a) covered by the valid construction or establishment of any public work, where the construction or establishment of the public work commenced on or before 23 December 1996.
 - (b) in relation to which native title rights and interests have otherwise been wholly extinguished.
- (4) Where the act specified in (2) or (3) falls within the provisions of any of sections 23B(9), 23B(9A), 23B(9B), 23B(9C) or 23B(10) of the *Native Title Act 1993* (Cth), then the area covered by the act is not excluded from this application.
- (5) Notwithstanding (2) and (3), the area covered by the application includes any area to which the non-extinguishment principle as defined in section 238 of the *Native Title Act 1993* applies, including any area to which sections 47, 47A or 47B of the *Native Title Act 1993* (Cth) applies.
- (6) The application area specifically excludes the NSD1093/12, NSD1169/12, NSD788/13 and NSD781/13 native title determination application areas.

Note – the terms in this Attachment B2 have the same meaning as they do in the *Native Title Act 1993* (Cth)

10

NATIVE TITLE DETERMINATION APPLICATION

NSD1680/2013 Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People (NC 2013/006)

NSD1680/2013 Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People (NC2013/006) - Amended

Water Catchment boundaries sourced from the NSW Natural Resource Atlas.

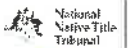
NOTE: To determine areas subject to claim within the external boundary, reference to the application description is necessary.

Application boundary data compiled by the NNTT.

Topographic image data is © Commonwealth of Australia and is used under licence from Geoscience Australia 2008

NOTE: Topographic image data is used as a guide only.

Map created by: Geospatial Services, National Native Title Tribunal (08/04/2014)



NORTH

0 20

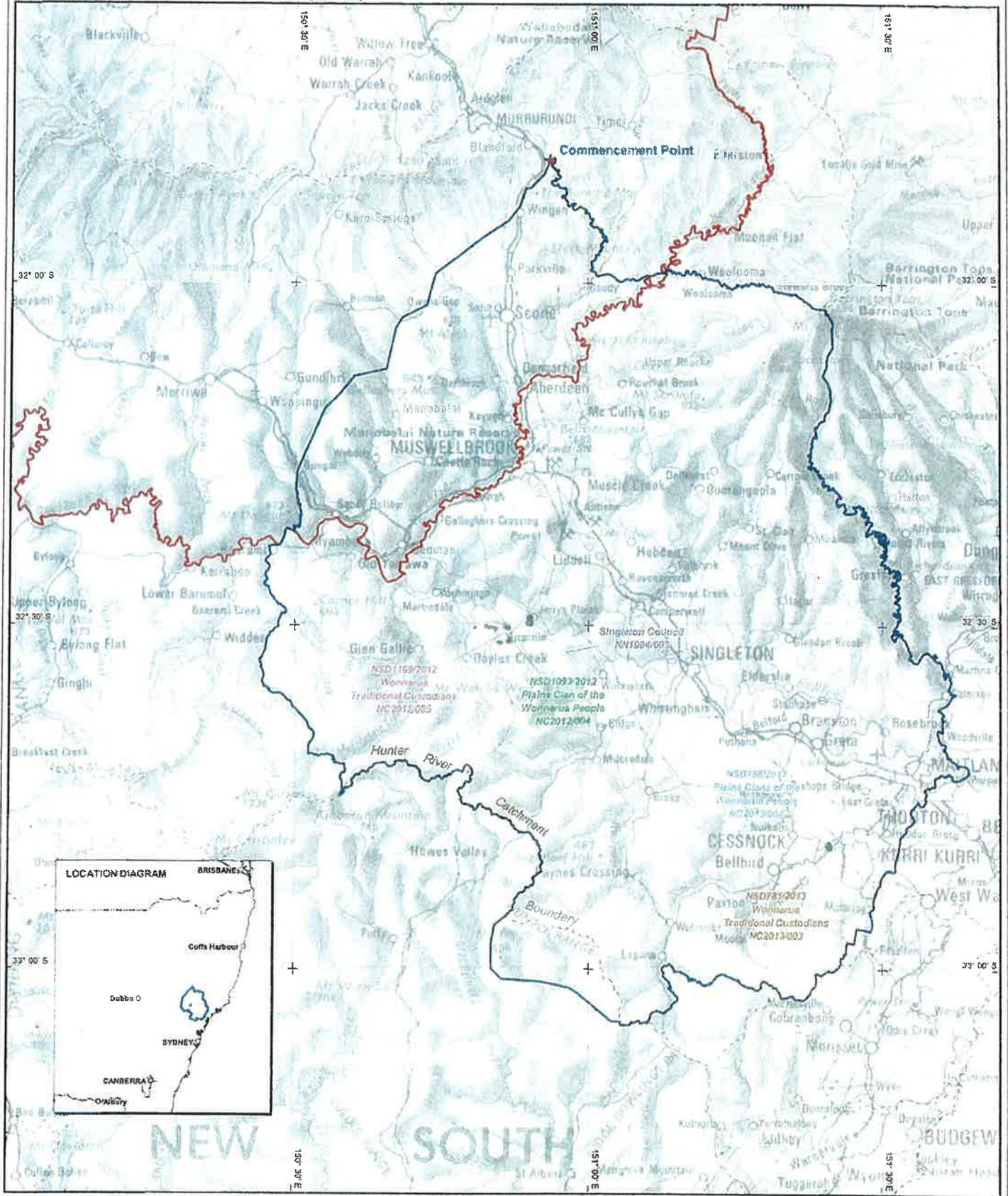
KILOMETRES

Latitude and Longitude based on Geocentric Datum of Australia 1994

See Properties

© Commonwealth of Australia 2014

The Registrar, the National Native Title Tribunal and its staff, members and agents and the Commonwealth (collectively the Commonwealth) accept no liability and give no undertakings, guarantees or warranties concerning the accuracy, completeness or fitness for purpose of the information provided. In return for you receiving this information you agree to release and indemnify the Commonwealth and third party data suppliers in respect of all claims, expenses, losses, damages and costs arising directly or indirectly from your use of the information and the use of the information you obtained by any third party.





Extract from Schedule of Native Title Applications

Application Reference: Federal Court number: NSD1093/2012
NNTT number: NC2012/004

Application Name: In the matter of Plains Clans Of The Wonnarua People (Plains Clans of the Wonnarua People #2)

Application Type: Claimant

Application filed with: Federal Court of Australia

Date application filed: 02/08/2012

Current stage(s): Pre-notification

Registration information: Please refer to the Register of Native Title Claims/National Native Title Register (as appropriate) for registered details of this application.

Date claim entered on Register of Native Title Claims: 14/09/2012

Registration decision status: Accepted for registration

Registration history: Registered from 14/09/2012

Applicants: Scott McCain Franks, Robert John Lester

Address(es) for Service: Robert John Lester & Scott McCain Franks
2 Warring Avenue
EMU PLAINS NSW 2750
Phone: 0415787844

Additional Information

Not applicable

Persons claiming to hold native title:

The biological descendants of Emily born approximately 1840, the mother of Henry Frederick Taggart who was born in Howes Valley, Broke in 1859 and died 5 March 1941 in the District of Singleton and the descendants of Mary Shoe born approximately 1800 in the Singleton district, the mother of Matilda Hughes born 1832 at Sydenham near Singleton married 28 December 1856 at Fallbrook to James Arthur Smith and died 5 October 1913 at Bridgeman, Patricks Plains Shire.

Native title rights and interests claimed:

1. Over areas where a claim to exclusive possession can be recognised (such as where there has been no prior extinguishment of native title or where s.238, including where ss 47, 47A or 47B apply, the Plains Clans of the Wonnarua People claim the right to possess, occupy, use and enjoy the land and waters of the application area against the whole world, pursuant to the traditional laws and customs of the claim group.

2. Over areas where a claim to exclusive possession cannot be recognised, the Plains Clans of the Wonnarua People claim the following rights and interests:

- a) the right to access the application area;
- b) the right to camp on the application area;
- c) the right to erect shelters on the application area;
- d) the right to live on the application area;
- e) the right to move about on the application area;
- f) the right to hold meetings on the application area;
- g) the right to hunt on the application area;
- h) the right to fish on the application area;
- i) the right to use natural water resources of the application area including the beds and banks of watercourses;
- j) the right to gather the natural products of the application area (including food, medicinal plants, timber, stone, ochre and resin) according to traditional laws and customs;
- k) the right to conduct ceremony on the application area;
- l) the right to participate in cultural activities on the application area;
- m) the right to maintain places of importance under traditional laws, customs and practices in the application area;
- n) the right to protect places of importance under traditional laws, customs and practices in the application area;
- o) the right to conduct burials on the application area;
- p) the right to speak for and make non-exclusive decisions about the application area;
- q) the right to cultivate and harvest native flora according to traditional laws and customs;
- r) The right to control access to, and use of, the area by those Aboriginal people who seek access or use in accordance with traditional laws and custom.

3. The native title rights are subject to:

- a) the valid laws of the States of New South Wales and Queensland and the Commonwealth of Australia;
- b) the rights (past or present) conferred upon persons pursuant to the laws of the Commonwealth and the laws of the State of New South Wales.

Application Area: **State/Territory:** New South Wales
Brief Location: Singleton
Primary RATSIB Area: New South Wales
Approximate size: 1.1317 sq km
(Note: There may be areas within the external boundary of the application that are not claimed.)
Does Area Include Sea: No

Area covered by the claim (as detailed in the application):

Mining Assessment Lease Application 49 (Act 1992) Doyles Creek Mining Pty Limited being an area of 112

hectares, in nine (9) parts situated approximately 30 kilometres west of Singleton, in the State of NSW.

Native Title is asserted over the 9 parts mentioned within 112 hectares of the Assessment Lease Application No 49 (Act 1992). A copy of the section 29 notice issued by the NSW Government and a diagram of the area is at Schedule C, and numbered 1 to 9.

The area claimed is subject to the conditions and exclusions set out in Attachment B.

A diagram of the mining lease area, showing the claimed area within the mining lease area is attached at Schedule C.

Attachments:

1. Schedule of exclusions, Attachment B of the Application, 1 page - A4, 02/08/2012
2. Map and area description, Attachment C of the Application, 5 pages - A4, 02/08/2012

NNTT Contact Details	Address:	National Native Title Tribunal Sydney Office Level 16, Law Courts Building Queens Square SYDNEY NSW 2000 GPO Box 9973 SYDNEY NSW 2001
	Telephone:	(02) 9227 4000
	Freecall:	1800 640 501
	Fax:	(02) 9227 4030
	Web Page:	www.nntt.gov.au

End of Extract

ATTACHMENT B

Subject to clause 3 and 4 the area covered by the application excludes any land or waters covered by:

- (a) a scheduled interest;
- (b) a freehold estate;
- (c) a commercial lease that is neither an agricultural lease nor a pastoral lease;
- (d) an exclusive agricultural lease or a exclusive pastoral lease;
- (e) a residential lease;
- (f) a community purposes lease;
- (g) a lease dissected from a mining lease as referred to in s2313(2)(vii);
- (h) any lease (other than a mining lease) that confers a right of exclusive possession over particular land or waters;

Which was validly vested or granted on or before 23 December 1996.

2. Subject to clauses 3 and 4 the area covered by the application excludes any area covered by the valid construction or establishment of any public work, where the construction or establishment of the public work commenced on or before 23 December 1996.

3. Where the act specified in I and 2 falls within the provisions of:

- (i) section 23B(9A) - Exclusion of acts benefiting Aboriginal people or Torres Strait Islanders;
- (ii) section 23B(9A) - Establishment of a national park or state park;
- (iii) section 2313(913) - Acts where legislation provides for non- extinguishment;
- (iv) section 23B(9C) - Exclusion of Crown to Crown grants; or
- (iv) section 2313(10) - Exclusion by regulation,

the area covered by the act is not excluded from this application.

4. Where an act referred to in clauses 1 and 2 covers land or waters referred to in:

- (i) section 47— Pastoral leases held by native title claimants;
- (ii) section 47A - Reserves etc. covered by claimant applications; or
- (iii) section 47B - Vacant crown land covered by claimant applications,

the area covered by the act is not excluded from this application.

Note: All references to sections in this schedule are references to the Native Title Act 1993 (Cth).

doyles
creek
MINING
PTY LTD

EL 6812
Savoy Hill

Bayswater
Power Station

Lake
Liddell

Main Northern
Railway

EL 6594
Dellworth

Ravensworth

New England
Highway

Plashette
Dam

Hunter River

EL 7270
Doyles Creek

Jerry Plains


dellworth
PTY LTD

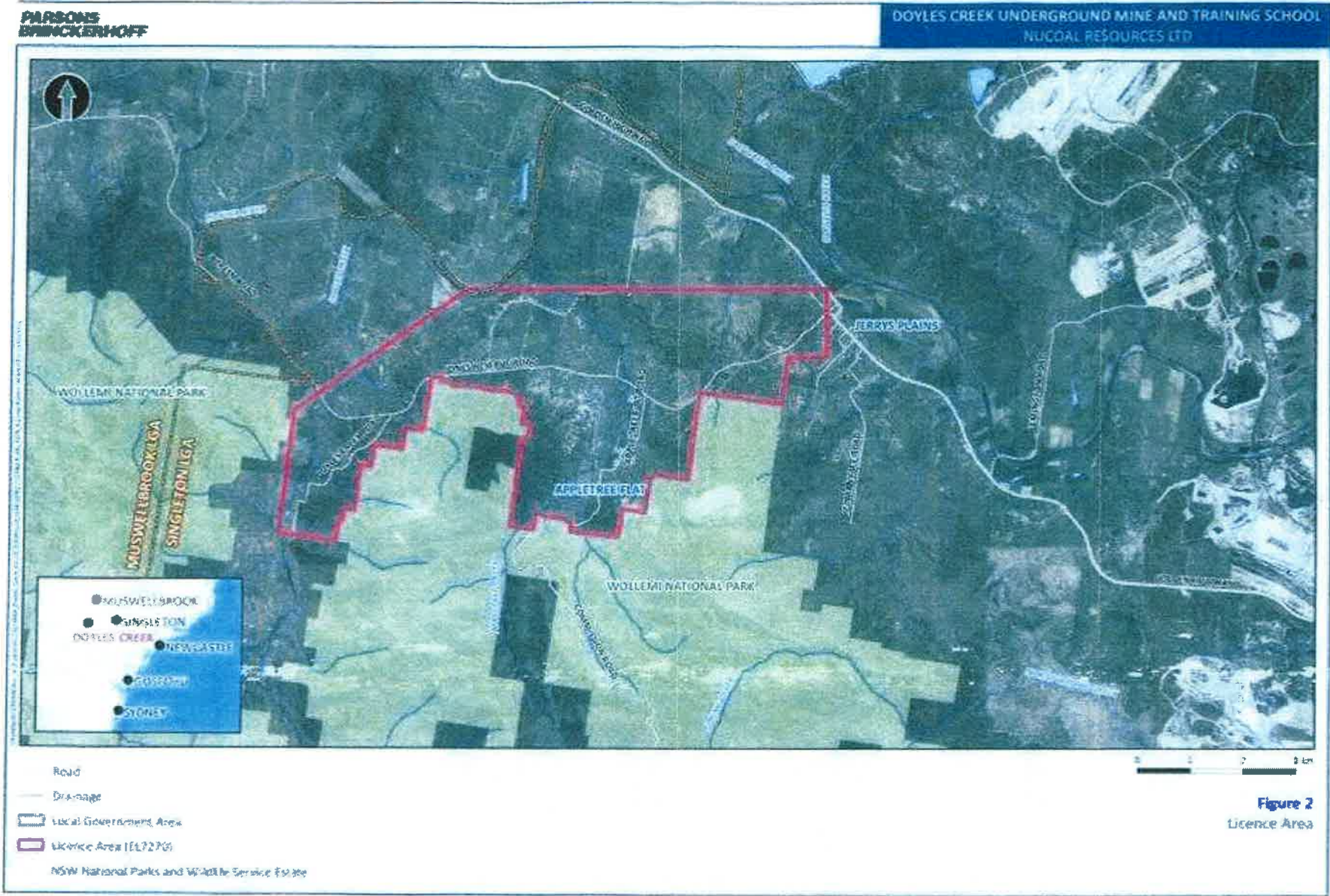


Figure 2 Licence Area

Inside Heritage Pty Ltd ECOM methodology for discussion

ATTACHMENT C

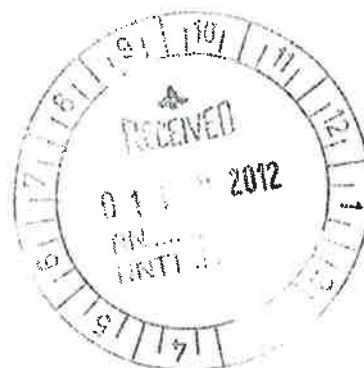
NS12/2



**Industry &
Investment**

Reference: T12-1504

The Registrar
National Native Title Tribunal
GPO Box 9973
SYDNEY NSW 2001



Dear Sir/Madam

**ASSESSMENT LEASE APPLICATION NO 49 (ACT 1992)
DOYLES CREEK MINING PTY LIMITED**

This notice is given in accordance with the requirements of Section 29 of the *Native Title Act 1993* (Cth).

Description of area that may be affected by the grant of the mining lease

An area of 112 hectares, in nine (9) parts, situated approximately 30 kilometres west of Singleton, in the State of NSW as shown on the attached diagram. The area is situated within the Singleton Local Government Area.

Description of the nature of the act

Grant of an assessment lease. The lease would authorise the prospecting for coal and be granted for a term of five (5) years.

Name and postal address of person by whom the act would be done

Chris Hartcher, Minister for Resources and Energy, PO Box 344, Hunter Region Mail Centre, NSW 2310.

How further information about the act can be obtained

For further information, please contact the undersigned on (02) 4931 6613.

Notification Day

For the purposes of Section 29(4) of the *Native Title Act 1993* (Cth) the notification day is 16 May 2012. Under Section 30 of that Act persons have until three (3) months after the notification day to take steps to become native title parties in relation to this notice.

Minerals - Titles 516 High Street Maitland NSW 2320
PO Box 344 Hunter Region Mail Centre NSW 2310
Email: webcoal.titles@industry.nsw.gov.au Fax: 02 4931 6776
ABN 72 189 919 072 www.industry.nsw.gov.au

Notices have also been served on ntscorp Limited and the applicant.

Newspaper notices will be published in the "Koori Mail" on 2 May 2012 and the "Singleton Argus" on 2 May 2012.

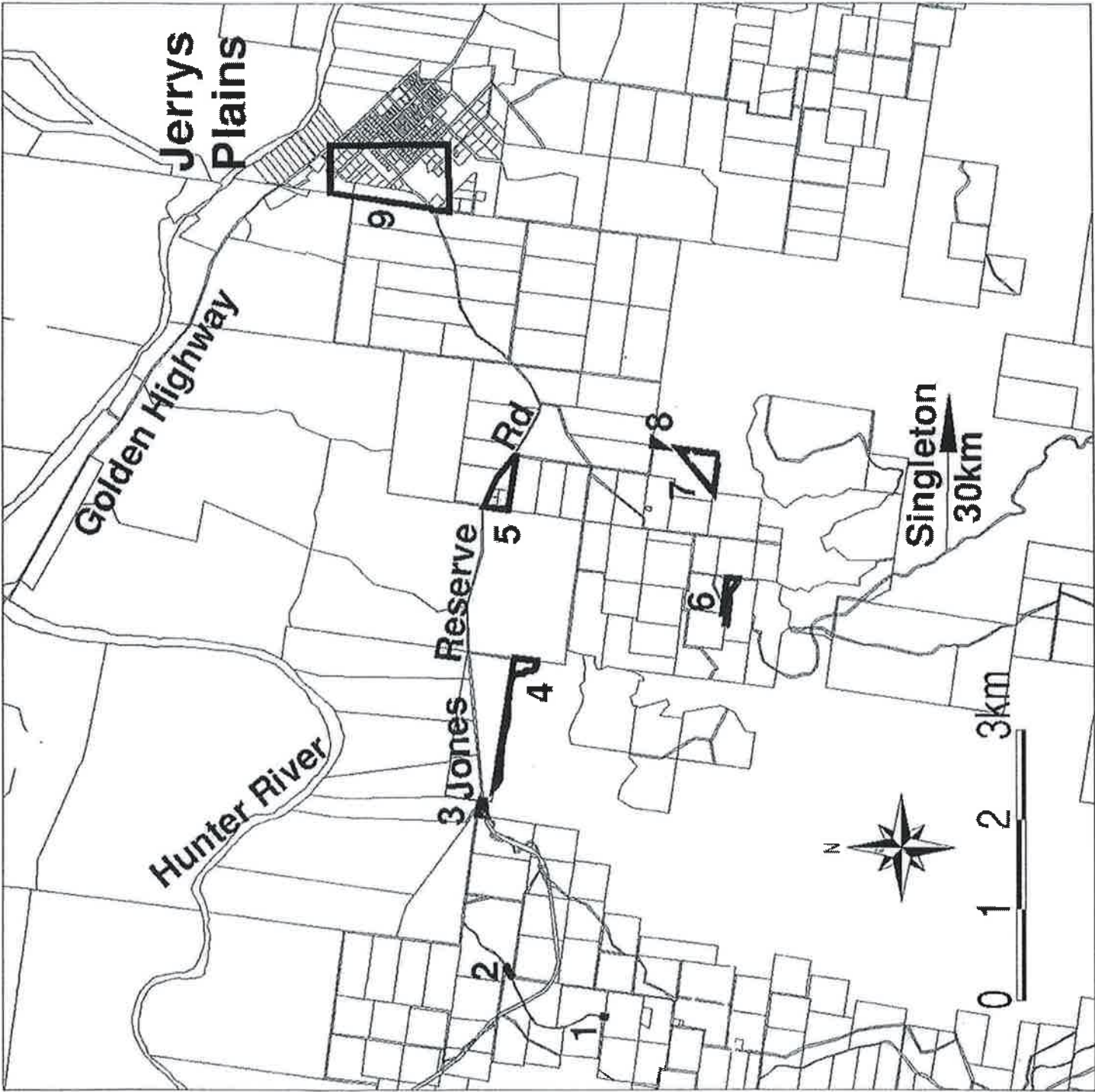
Yours faithfully

A handwritten signature in black ink, appearing to read 'Peta Johannessen', written in a cursive style.

Peta Johannessen
for Director General

27 April 2012

ATTACHMENT C



Extract from the Register of Native Title Claims

Application Information

Application Reference: **Federal Court number:** NSD1169/2012
NNTT number: NC2012/005

Application name: Wonnarua Traditional Custodians & Ors v Attorney General of NSW (Wonnarua Traditional Custodians)

Registration History: Registered from 14/09/2012

Register Extract (pursuant to s. 186 of the *Native Title Act 1993*)

Application filed with: Federal Court of Australia

Date application filed: 15/08/2012

Date claim entered on Register: 14/09/2012

Applicants: Desmond Hickey, Margaret Ann Matthews, Warren Stanley George Taggart, Gordon Griffiths, George Edward Sampson, Luke Matthew Hickey, Warren Frank Schillings, Allen Stuart Paget, Timothy Peter Smith

Address for service: Bill Redmond
Redmond + Redmond
Level 2
40 Florence Street
Teneriffe QLD 4006
Phone: 07 3620 2000
Fax: 07 3216 0265

Additional Information:

Not Applicable

DESCRIPTION OF THE AREA COVERED BY THE CLAIM:

A description of the area of land and waters covered by the application is provided at Attachment B.

Areas within the boundary identified in Attachment B that are not covered by the application are set out below:

1. The area covered by the application excludes any land or waters that is or has been covered by:

- (a) Scheduled interest;
- (b) a freehold estate;
- (c) commercial lease that is neither an agricultural lease nor a pastoral lease;

- (d) an exclusive agricultural lease or an exclusive pastoral lease;
- (e) a residential lease;
- (f) a community purpose lease;
- (g) a lease dissected from a mining lease and referred to in s. 23B(2)(c)(vii) of the Native Title Act 1993 (Cth);
- (h) any lease (other than a mining lease) that confers a right of exclusive possession over particular land or waters.

2. Subject to paragraphs 4 and 5, the area covered by the application excludes any land or waters covered by the valid construction or establishment of any public work, where the construction or establishment of the public work commences on or before 23 December 1996.

3. Subject to paragraphs 4 and 5, exclusive possession is not claimed over areas which are subject to valid previous non-exclusive possession acts done by the Commonwealth or State of New South Wales.

4. Subject to paragraph 6, where the act specified in paragraphs 1, 2 and 3 falls within the provisions of:

- s. 23B(9) - exclusion of acts benefiting Aboriginal Peoples or Torres Strait Islanders;
- s. 23B(9A) - establishment of a national park or state park;
- s. 23B(9B) - acts where legislation provides for non-extinguishment;
- s. 23B(9C) - exclusion of Crown to Crown grants; and
- s. 23B(10) - exclusion by regulation,

the area covered by the act is not excluded from the application.

5. Where an act specified in paragraphs 1, 2 and 3 affects or affected land or waters referred to in:

- s. 47 - Pastoral leases etc covered by claimant application;
- s. 47A - Reserves etc covered by claimant application;
- s. 47B - Vacant Crown land covered by claimant application,

the area covered by the act is not excluded from the application.

6. The area covered by the application excludes land or waters where the native title rights and interests claimed have been otherwise extinguished.

PERSONS CLAIMING TO HOLD NATIVE TITLE:

The claim group are persons:

1. who are recognised by other members of the claim group as being descended (which may include by adoption) from a deceased person who they recognise as having been a member of the aboriginal landholding group for the application area depicted in Attachment C ("an apical ancestor"); and
2. who identifies himself or herself as being a descendant of an apical ancestor.

It is accepted that adoption may take place and where adoption has occurred it confers upon the adoptee the right to identify as a member of the claim group.

The following deceased persons are recognised as having been apical ancestors from whom claim group members are descended:

The Wonnarua Traditional Custodians:

- Susan Bishop (aka Susan Dangar/Young/Dwyer)
- George William Cian
- Matilda Hughes
- Sarah Madoo, and her immediate ancestral kin, Mary and Emily Shoe

- Henry 'Harry'/ 'Tommy' Taggart and his mother, Emily
- Mary Ann(e) Webster

REGISTERED NATIVE TITLE RIGHTS AND INTERESTS:

The following Native Title Rights & Interests were entered on the Register on 14/09/2012

2. Over areas where a claim to exclusive possession cannot be recognised, the claim group claims the non-exclusive right to:

- (a) live and be present on the application area;
- (b) take, use, share and exchange traditional natural resources for personal, domestic and non-commercial, communal purposes;
- (c) conduct burial rites;
- (d) conduct ceremonies;
- (e) teach on the area about the physical and spiritual attributes of the area;
- (f) maintain places of importance and areas of significance to the native title holders under their traditional laws and customs and protect those places and areas from physical harm;
- (g) light fires for domestic purposes including cooking but not for the purposes of hunting or clearing vegetation;
- (h) be accompanied into the claim area by non claim group members being people required:
 - (1) by traditional law and custom for the performance of ceremonies or cultural activities; and
 - (2) to assist in observing and recording traditional activities on the claim area; and
- (i) In relation to water, take and use
 - (1) traditional natural resources from the water for personal, domestic and non-commercial communal purposes; and
 - (2) for personal, domestic and non-commercial, communal purposes.

3. For the purposes of 2 above -

"Live" means to reside and for that purpose erect shelters and temporary structures but does not include a right to construct permanent structures.

"Traditional natural resource" means:

- (1) "animals" as defined in the National Parks and Wildlife Act 1974 (NSW);
- (2) "plants" as defined in the National Parks and Wildlife Act 1974 (NSW);
- (3) charcoal, shells and resin; and
- (4) clay, soil, sand, ochre, gravel or rock on or below the surface.

"Water" means water source as defined by the Water Management Act 2000 (NSW).

4. The native title rights and interests are subject to:

- (a) The valid laws of the State of New South Wales and the Commonwealth of Australia; and
- (b) The rights conferred under those laws.

The claim group does not claim ownership of minerals, petroleum or gas that are wholly owned by the Crown.

REGISTER ATTACHMENTS:

1. 1. Description of the area covered by the application, Attachment B of the Application, 1 page - A4, 15/08/2012

2. 2. Map showing the external boundaries of the claim area, Attachment C of the Application, 1 page - A4, 15/08/2012

Note: The Register of Native Title Claims may, in accordance with s. 188 of the Native Title Act 1993, contain confidential information that will not appear on the Extract.

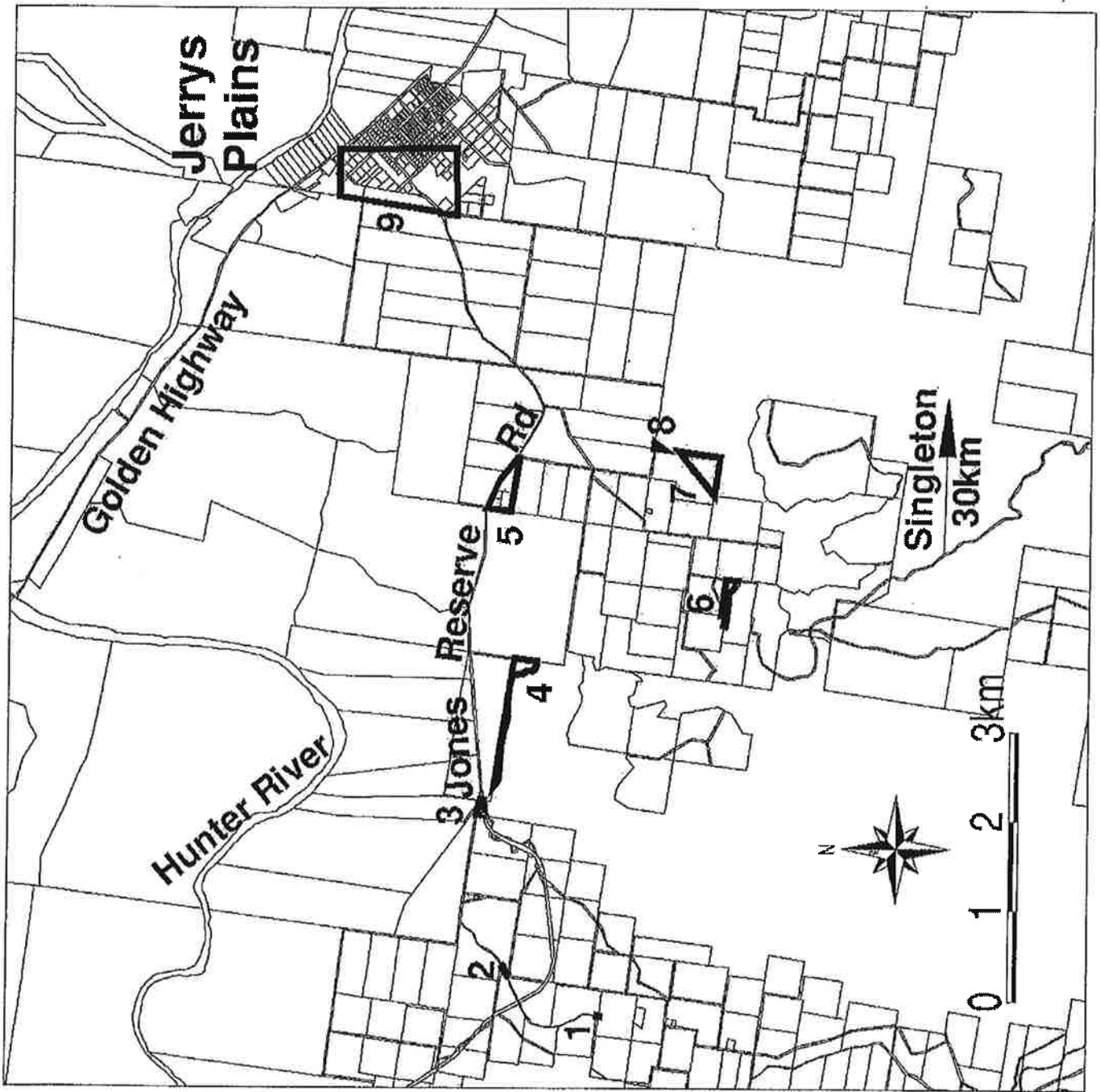
ATTACHMENT "B"
AREA OF LAND AND WATERS COVERED BY THE APPLICATION.

The application area covers all the land and waters within the areas described in the Assessment to Lease Application No 49, being 112 hectares of land (in nine parts) approximately 30km north-west of Singleton and 17km from Wakworth.

RNTC attachment: NSD1169/2012 (NC2012/005)
Description of the area covered by the application, Attachment B of the Application
Page 1 of 1, A4, 15/08/2012



ATTACHMENT "C"
A MAP SHOWING THE EXTERNAL BOUNDARIES OF THE CLAIM AREA.



RNTC attachment:
NSD1169/2012 (NC2012/005)
Map showing the external boundaries of the claim area, Attachment C of the Application
Page 1 of 1, A4, 15/08/2012



From: Wanaruah Admin [admin.wanaruah@bigpond.com]
Sent: Thursday, 2 April 2015 8:19 AM
To: southbatesacha@gmail.com
Subject: FW: Re Wambo coal Mine South Bates Modification - Aboriginal Cultural Heritage Assessment
Attachments: RAP list.pdf; Wambo Coal Mine letter.pdf

Good morning, Danielle,

Please find attached letter of confirmation for consultation and list of RAPs.

Thank you for your time.

Kind regards,
Kate

Kate Wood-Pahuru

Senior Administration Officer

Wanaruah Local Aboriginal Land Council

17-19 Maitland Street,
Muswellbrook. NSW. 2333

PO Box 127
Muswellbrook. NSW. 2333

Phone: 02 6543 1288

I acknowledge the Traditional Owners of the land I work on, the Wanaruah people. I pay my respects to our Elders Past, Present and Future.



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: wanaruah@bigpond.net.au

24th March, 2015.

Attn: Danielle Wallace,
Wambo Coal Pty Ltd,
PO Box 1842,
Milton QLD 4064

Re: Wambo Coal Mine South Bates Modification – Aboriginal Cultural Heritage Assessment

Dear Danielle,

Thank you for your letter dated 18th March, 2015 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.

Yours sincerely,

Noel Downs
Chief Executive Officer
Wanaruah Local Aboriginal Land Council



GROUP NAME	CONTACT NAME	ADDRESS	PH	FAX	MOBILE	E-MAIL
Aboriginal Native Title Consultants	John & Margaret Matthews	16a Mahogany Cresent MUSWELLBROOK NSW 2333			0417725956	
Bullen Bullen Heritage Consultants	Lloyd Matthews	16a Mahogany Cresent MUSWELLBROOK NSW 2333	6742 0658			
Cacatua Culture Consultants	George Sampson Donna Sampson	22 Ibis Parade WOODBERRY NSW 2333	4964 4685	4964 4635	0428010077	cacatua@resetsdsl.net.au
Carrawonga	Justin Matthews	16B Mahogany Avenue MUSWELLBROOK NSW 2333				
Culturally Aware	Tracey Skene	7 Crawford Place MILLFIELD NSW 2325			0437 899 496 0447 266 595	anigunya@hotmail.com
Gidawaa Walang Cultural Heritage Consultancy	Annie Hickey	76 Lang Street KURRI KURRI NSW 2327	4937 1094	4936 4449	0402 322 974	barkumanc@hotmail.com
Giwiirr Consultants	Rodney Matthews Michelle Stair	8 Fitzgerald Avenue MUSWELLBROOK NSW 2333	6541 0506	6541 0751	0432 476 009 0432 214 402	bigrodshouse@hotmail.com
Hunter Valley Aboriginal Corporation	Rhonda Griffith	PO Box 579 MUSWELLBROOK NSW 2333	6543 1180	6543 1106		h973809@bigpond.net.au
Hunter Valley Cultural Consultants	Christine Archibald	40 Humphries Street MUSWELLBROOK NSW 2333	6541 2265		0400 715 274	
Hunter Valley Cultural & Natural Resources	David French	Flat 3, 60 Tindale Street MUSWELLBROOK NSW 2333	6541 2601		0427 949 436	drf@deakin.edu.au

Hunter Valley Cultural Surveying	Luke & Pansy Hickey	165 susan Street, 5CONE N5W 2337			0402 446 223	
Lower Hunter Wonnarua Council	Lea-Ann Ball (Miller)	142 Northcote 5street KURRI KURRI N5W 2327	4937 2694		0402 636 521	lea5972@hotmail.com
Lower Wonnarua Tribal Consultancy Pty Ltd	Barry Anderson	156 The Inlet Road BULGA NSW 2333	6574 5303	6574 5303	0417 403 153	barry156@bigpond.com
Mingga Consultants	Clifford Matthews	11 Coolibah Close MUSWELLBROOK NSW 2333			0421 942 962 0411 952 511	
Muswellbrook Cultural Consultants	Brian or David Horton	10 Scott 5street MU5WELLBROOK N5W 2333			0488 014 441	
Ungooroo Aboriginal Corporation	Taasha Layer	PO Box 3095 SINGLETON NSW 2330	6571 5111	6571 5777	0423 736 661	ungooroo@bigpond.com
Ungooroo Cultural & Community Services Inc	Rhonda Ward	8 Blaxland Avenue SINGLETON NSW 2330	6571 1660	6571 1660	0421 243 909	
Upper Hunter Heritage Consultants	Darryl Matthews	14 Edinglassie Drive MU5WELLBROOK N5W 2333		6541 3533	0422 910 898 0439 556 641	
Upper Hunter Wonnarua Council Inc	Victor Perry	PO Box 184 SINGLETON N5W 2330	6571 4888	6571 4889	0412 593 020	l.perry@optusnet.com.au
Valley Culture	Larry Van Vliet	140 Sydney 5street MU5WELLBROOK NSW 2333	6542 5445	6542 5652	0414 872 290	
Wanaruah Custodians	Barbara Foot and Reginald Eveleigh	35 Acacia Circuit SINGLETON NSW 2330	6571 1935		0427 665 529	
Wattaka Wonnarua Cultural Consultants	Des Hickey	4 Kennedy 5street SINGLETON N5W 2330	6571 1713	6571 2609	0432 977 178	deshickey@bigpond.com
Wonnarua Culture Heritage	Joseph and Gordon Griffiths	19 O'Donnell Crescent METFORD N5W 2323	4933 2067	4933 2067	0401 028 807	vic82@dodo.com.au
Wonnarua Elders Council	Rhoda Perry Tom Miller	PO Box 184 SINGLETON N5W 2330	6571 4888	6571 4889		l.perry@optusnet.com.au

Wonnarua Nation Aboriginal Corporation	Laurie Perry and Sandra Miller	PO Box 3066 SINGLETON DELIVERY CENTRE 2330	6571 5419	6571 5419	0412 593 020 (Laurie)	wonnarua@bigpond.com
Wonn1 Contracting	Arthur Fletcher	619 Main Road GLENDALE NSW 2285	4915 6833	4954 7751	0402 146 193	wonn1sites@gmail.com
Yarrawalk	Scott Franks Barry McTaggart	PO Box 76 CARINGBAH 1495 913 WOLLOMBI ROAD BROKE 2330	6579 1185	6579 1485	0404 171 544 0419 220 297	yarrawalk@tpg.com.au yarrawalk@optusnet.com.au
Yinarr Cultural Services	Kathleen Steward-Kinchela	111 Westwood Rd Gungahlin N5W 2333		65476077	07019 042882 0415436587	yinarrculturalservices@gmail.com
Janbant Mugrebea	Les Atkinson	11 Nelson Street cessnock nsw 2325			0402 355 317	les.atkinson@hotmail.com
Aliera French Trading	Aliera French	12 Haydon Street muswellbrook nsw 2333	65 412 765	same as house phone	0421 299 963	aliera.french.trading@hotmail.com
Waabi Gabinya Cultural Consultancy	Elizabeth Howard	19 Foley Street Muswellbrook NSW 2333			0409 898 876	elizabeth.howard@hotmail.com
GALAMAAY CONSULTANT	Karen Matthews	10 Scott Street MUSWELLBROOK NSW 2333			0421 853 860	
Deslee Talbott Consultant	Deslee Talbott	2/19 South street Gunnedah NSW 2380			0431 205336	
KL.KG Saunders Trading Services	Krystal Saunders	7 Boronia drive Muswellbrook Nsw 2333			0434 553 307	klsaunders@live.com nerida.saunders@hotmail.com

1 April 2015

Attention:

Dear

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Wambo Coal Pty Ltd (WCPL) owns and operates the Wambo Coal Mine, located approximately 15 kilometres west of Singleton in the Hunter Valley, New South Wales (NSW).

WCPL plans to seek approval of a modification to Development Consent (DA 305-7-2003) for the Wambo Coal Mine under the NSW *Environmental Planning & Assessment Act, 1979* and the NSW *Environmental Planning and Assessment Regulation, 2000*. The proposed Modification involves the extraction of three additional longwall panels in the Wambo Seam, below the three approved longwall panels in the Whybrow Seam at the Wambo Coal Mine.

As part of the modification request, WCPL will be preparing an Aboriginal Cultural Heritage Assessment, and therefore may seek an 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). The subject area of the Modification and any such application is depicted as the "Area of Interest" as shown on the enclosed plan.

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 (OEH), WCPL is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment referred to above. This includes:

- Contacting various government organisations and requesting a list of 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".
- Writing to the Aboriginal persons or groups identified by the above process to notify them of the Modification and invite them to register an interest in the community consultation process.
- Placing a notice in a local newspaper explaining the Modification and inviting Aboriginal persons or groups to register an interest in the community consultation process.

Due to your previous involvement in Aboriginal Cultural Heritage Assessments at the Wambo Coal Mine, have been automatically registered for the consultation process associated with the Modification. You do NOT need to contact WCPL to re-register for the Modification.

WCPL advises that as a Registered Aboriginal Party, your details 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 you specify that you do not want your details released.

Should you have any queries regarding your registration, please do not hesitate to contact WCPL via the following details:

Wambo Coal Pty Ltd
C/- Danielle Wallace
PO Box 1842, Milton QLD 4064
Mobile: 0414 833 397
Email: southbatesacha@gmail.com

Yours faithfully,



Micheal Alexander
Director: Technical Services and Projects
WAMBO COAL PTY LTD

7 April 2015

Attention:

Dear

RE: WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Wambo Coal Pty Ltd (WCPL) owns and operates the Wambo Coal Mine, located approximately 15 kilometres west of Singleton in the Hunter Valley, New South Wales (NSW).

WCPL plans to seek approval of a modification to Development Consent (DA 305-7-2003) for the Wambo Coal Mine under the NSW *Environmental Planning & Assessment Act, 1979* and the NSW *Environmental Planning and Assessment Regulation, 2000*. The proposed Modification involves the extraction of three additional longwall panels in the Wambo Seam, below the three approved longwall panels in the Whybrow Seam at the Wambo Coal Mine.

As part of the modification request, WCPL will be preparing an Aboriginal Cultural Heritage Assessment, and therefore may seek an 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). The subject area of the Modification and any such application is depicted as the "Area of Interest" as shown on the enclosed plan.

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 (OEH), WCPL is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment referred to above.

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 object(s) and/or place(s) in the "Area of Interest" are invited to register an interest in a process of community consultation with WCPL regarding the Modification.

Should you wish to register an interest in the community consultation processes described, could you please provide your details in writing before **5.00 pm on Friday 24 April 2015** to WCPL via the following contact details:

Wambo Coal Pty Ltd
C/- Danielle Wallace
PO Box 1842, Milton QLD 4064
Mobile: 0414 833 397
Email: southbatesacha@gmail.com

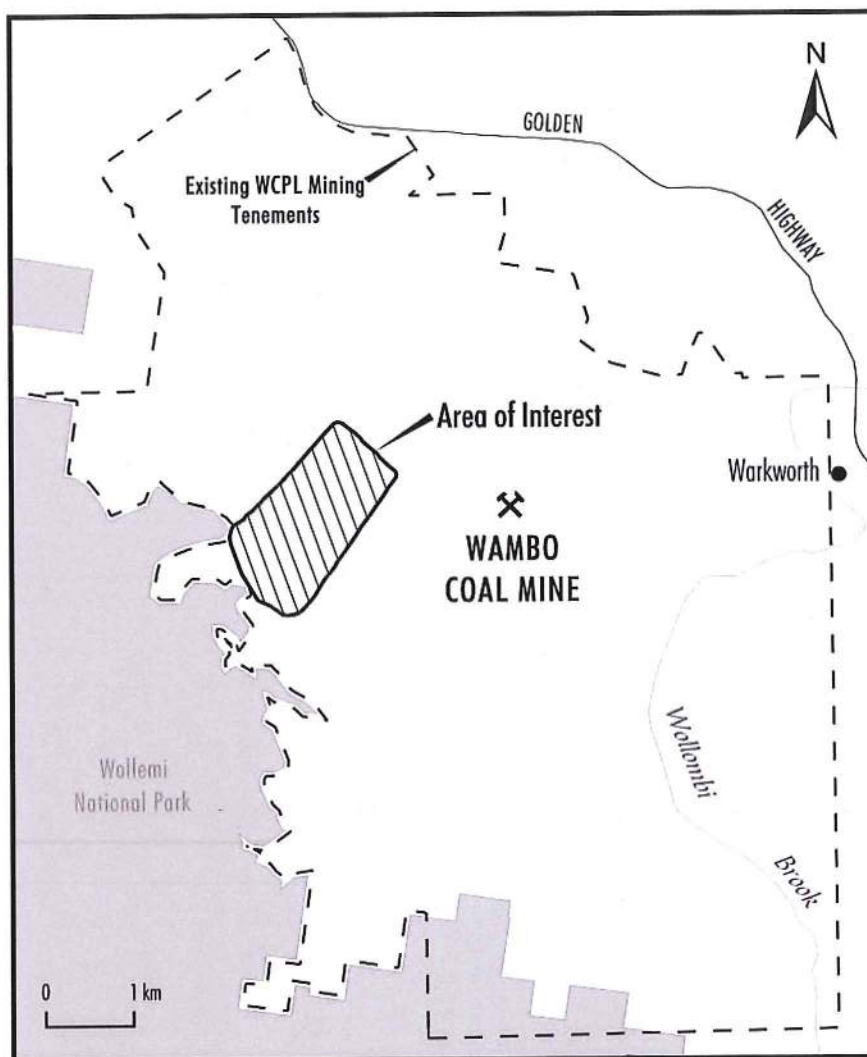
WCPL advises that the details of any Aboriginal person or group who registers an interest in the Modification will be forwarded to the NSW Office of Environment and Heritage and the Wanaruah Local Aboriginal Land Council in accordance with Section 4.1.5 of the Consultation Guidelines, unless they specify that they do not want their details released.

Yours faithfully,



Micheal Alexander
Director: Technical Services and Projects
WAMBO COAL PTY LTD

Plan Showing "Area of Interest"



From: Tom Miller [tn.miller@southernphone.com.au]
Sent: Thursday, 2 April 2015 5:01 PM
To: Danielle Wallace
Cc: Nicole Davis; Simon Bennett
Subject: Lower Hunter Wonnarua Cultural Services WAMBO COAL Pty Ltd
Attachments: Lower Hunter Wonnarua Cultural Services WAMBO COAL Pty Ltd.docx

Danielle we are sending you our expression of interest in the WAMBO COAL MINE South Bates Modification- 15 kms west of Singleton.

Regards
Tom Miller
WONNARUA ELDER LHWCS



Lower Hunter Wonnarua Cultural Services

ABN: 21 808 659 440



RE. WAMBO CAOL MINE SOUTH BATES MODIFICATION-ABORIGINAL CULTURAL ASSESSMENT
HUNTER VALLEY. N.S.W.

Dear Danielle,

We are Registered Native Title Claimants and have a strong physical, emotional, spiritual connection and knowledge of the land. We also have knowledge of the Country of which you are going to impact on. I am a registered Native Title claimant in the Hunter Valley with registration number NC 02/7, N6008/02. As you can appreciate this is only a small claim but is evidence that I meet the requirements and passed the registration requirements. We are recognized throughout the Hunter Valley and Aboriginal Community as Traditional Owners and have an interest in all of the Hunter Valley.

We are sorry for not getting a response to you earlier as we just received notification from NTSCORP so we are sorry for the delay.

We would want to be included and involved with all aspects of the survey for this project in the ABORIGINAL HERITAGE SURVEY and ARCHAEOLOGICAL ASSESSMENT REPORT/ DUE DILIGENCE ASSESSMENT and a Flora and Fauna ASSESSMENT.

We have recently been through some restructuring and from the 14/01/13 have been trading as LOWER HUNTER WONNARUA CULTURAL SERVICES.

We have been working in the Hunter Valley for more than thirty years with all our people being ABORIGINAL and being proficient in all aspects of Investigation of our Heritage and Culture. We would like to be consulted and included in all aspects of this project in a paid capacity. If you need any clarification you can call me on 0402 636 521 or Dean Miller on 0474 467 768.

We have people with over thirty year experience working with various archaeologist throughout the Hunter Valley. We have a good relationship with all archaeologist in a team environment and workplace.

As the recognized Traditional Owners and Registered Native Title Claimants we would want to be included in all aspects of this development.

Yours truly,

Thomas Miller
WONNARUA ELDER Lower Hunter Wonnarua Cultural Services



Postal Address: 51 Bowden Street Heddon Greta, NSW 2321 Mobile: 0402 636 521 Fax: 0249 372 694
email: tn.miller@southernphone.com.au

From: Administration [admin@ungooroo.com.au]
Sent: Tuesday, 7 April 2015 2:08 PM
To: southbatesacha@gmail.com
Cc: Taasha Layer - CEO; Allen Stuart Paget
Subject: RE: WAMBO COAL MINE SOUTH BATES MODIFICATION - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Good Afternoon,

UNGOOROO Aboriginal Corporation would like to register our interest in the WAMBO COAL MINE SOUTH BATES MODIFICATION – ABORIGINAL CULTURAL HERITAGE ASSESSMENT.

We had previously registered our interest in the email below, however after receiving a second letter in the mail and to ensure that you have received our response we are emailing you again.

Kind Regards,

Bree Waterhouse
Medical Administration Officer

Ungooroo Aboriginal Corporation (UAC)
DOOKAL Group Pty Ltd
WUPA@Wanaruah

PO Box 3095
SINGLETON NSW 2330
P. 02 65 71 5111
F. 02 65 71 5777
E. admin@ungooroo.com.au
Website: www.ungooroo.com.au
Website: www.wupaatwanaruah.com.au



- DOOKAL Group Pty Ltd



- WUPA@Wanaruah

"Ungooroo Aboriginal Corporation acknowledges Aboriginal and Torres Strait Islander peoples 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: Administration [<mailto:admin@ungooroo.com.au>]
Sent: Tuesday, 31 March 2015 11:22 AM
To: 'southbatesacha@gmail.com'
Cc: Taasha Layer - CEO; Allen Stuart Paget
Subject: WAMBO COAL MINE SOUTH BATES MODIFICATION - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Good Morning Danielle,

UNGOOROO Aboriginal Corporation would like to register our interest in the **WAMBO COAL MINE SOUTH BATES MODIFICATION - ABORIGINAL CULTURAL HERITAGE ASSESSMENT.**

If you have any questions or require any further information please do not hesitate to contact us.

Kind Regards,

Bree Waterhouse
Medical Administration Officer

Ungooroo Aboriginal Corporation (UAC)
DOOKAL Group Pty Ltd
WUPA@Wanaruah

PO Box 3095
SINGLETON NSW 2330
P. 02 65 71 5111
F. 02 65 71 5777
E. admin@ungooroo.com.au
Website: www.ungooroo.com.au
Website: www.wupaatwanaruah.com.au



- DOOKAL Group Pty Ltd



- WUPA@Wanaruah

W.C.A.C
I C N
4 6 2 6



WANARUAH CUSTODIANS
ABORIGINAL CORP.
PO BOX 242
SINGLETON NSW 2330

Wanaruah Custodians Aboriginal Corporation

NSW Environmental Planning and Assessment Act 1979 NSW National Parks and Wildlife Act 1974 - Section 90

Wambo Coal Pty Ltd (WCPL) owns and operates the Wambo Coal Mine, located approximately 15 kilometres west of Singleton in the Hunter Valley, New South Wales (NSW).

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As part of the modification request, WCPL will be preparing an Aboriginal Cultural Heritage Assessment, and therefore may seek an 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). The subject area of the Modification and any such application is depicted as the "Area of Interest" as shown on the enclosed plan.

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 (OEH), WCPL is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment referred to above.

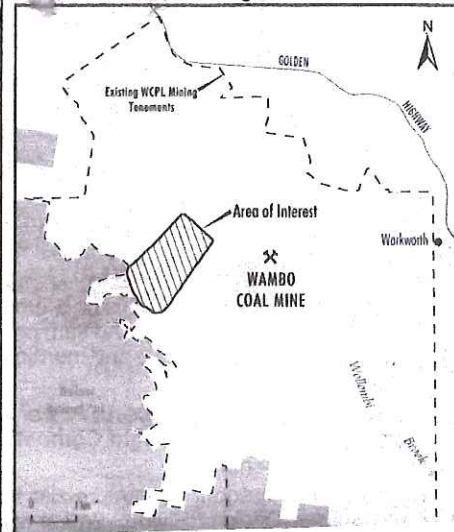
Also in accordance with the requirements of the Consultation Guidelines, Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the "Area of Interest" are invited to register an interest in a process of community consultation with WCPL regarding the Modification by 5.00 pm on Friday 24 April 2015.

WCPL advises that the details of any Aboriginal person or group who registers an interest in the Modification 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 employment would be separate to the consultation process.

Contact details for registration are as follows:

Wambo Coal Pty Ltd
C/- Danielle Wallace
PO Box 1842, Milton QLD 4064
Mobile: 0414 833 397
Email: southbatesacha@gmail.com



*Registration of
Interest*

Contact Person

**REGINALD J EVELEIGH
P.O.Box.242
SINGLETON, 2330.**



From: Danny Franks [danny@tocomwall.com.au]
Sent: Friday, 24 April 2015 12:09 PM
To: Dani Wallace
Subject: Re: South Bates Modification (S.O.C)
Attachments: 20140408_NC2013_006_Topo_A3P.pdf; Tocomwall S.O.C 17APR15 Draft [1][1].pdf; Wambo Coal,Bates modification EOI 24 05 2015[1].pdf

Morning Dani,

Please see attached all relevant documents in regards to the Wambo Bates Modification.

I would also like to point out we are a fully operational archaeological firm. Tocomwall has the ability to provided a sound process in managing our clients heritage risks.

Have a look at our statement of capabilities and please don't hesitate to Give me a call anytime, to discuss upcoming projects.

Regards

Danny Franks
Aboriginal Heritage & Senior Field Manager

Tocomwall Pty Ltd
PO Box 76
Caringbah NSW 1495
m: 0415226725
p: 02 9542 7714
f: 02 9524 4146
e: danny@tocomwall.com.au
www.tocomwall.com.au



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Tocomwall Pty Ltd

PO Box 76 Caringbah NSW 1495

Tel: 02 9542 7714 Fax: 02 9524 4146

Email: info@tocomwall.com.au www.tocomwall.com.au

ABN: 13 137 694 618

24 April 2015

Danielle Wallace
Wambo Coal Pty Ltd
PO Box 1842
Milton Qld 4064
Via email: southbatesacha@gmail.com

RE: Expression Of Interest For Aboriginal Cultural Heritage Assessment For The South Bates Modification.

Dear Danielle,

Tocomwall is the representative for the Registered Native Title Party Scott Franks and Anor on the behalf of The Plains Clan of the Wonnarua People Federal Court Number NSD1680/2013 NNTT Number NC2013/006. Please ensure that you only contact Scott Franks regarding your project. The PCWP contact is the writer and the only contact and spokes person for the group, if you or your client is contacted by any party or person accreting that they are a member or a spokes person for the PCWP you will need this in writing from Tocomwall.

As such the following Traditional protocols must be met.

- The right to speak for and make decisions about the application area;
- The right to control access to, and use of, the area by those Aboriginal people who seek access or use in accordance with traditional law and custom.

The native title rights and interests are subject to and exercisable in accordance with:

1. (a) The laws of the State of New South Wales and the Commonwealth of Australia;
2. (b) The rights (past or present) conferred upon persons pursuant to the laws of the commonwealth and the laws of the state of New South Wales; and (c) the traditional laws acknowledged and the traditional customs observed by the native title claim group.

We would also like to advise that the current consultation guidelines for proponents 2010 in some cases may be used for the purpose of consultation, please consider the following;

3.3.1 who can provide this information?

Aboriginal people who can provide the information outlined in 3.3 above are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject of the proposed project. Traditional owners or custodians with appropriate cultural heritage knowledge to



Tocomwall Pty Ltd

PO Box 76 Caringbah NSW 1495

Tel: 02 9542 7714 Fax: 02 9524 4146

Email: info@tocomwall.com.au www.tocomwall.com.au

ABN: 13 137 694 618

inform decision making who seek to register their interest as an Aboriginal party are those people who:

- Continue to maintain a deep respect for their ancestral belief system, traditional lore and custom
- Recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
- Have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.

In some cases, the information required for decision making will be held by Aboriginal people with statutory recognition for certain lands:

- Aboriginal owners in accordance with the NSW ALR Act and/or
- Native title holders or registered native title claimants in accordance with the *Native Title Act 1993* (Cth) and *NSW Native Title Act 1994*

It is acknowledged that Aboriginal people who, through a historical presence in a particular area, may have developed cultural knowledge relevant to the Aboriginal objects and/or places based on knowledge passed down to them by Aboriginal people with a traditional connection to Country. DECCW respects the rights of Aboriginal people with a historical connection to Country to, with their permission, act on behalf of Aboriginal people with a traditional connection to Country. DECCW acknowledges that in some cases it will only be Aboriginal people with a historical connection to an area who have the knowledge to inform the assessment of cultural significance of certain objects/places; e.g. on Aboriginal reserves and missions.

Could you please ensure that you client contact Tocomwall directly to ensure that your project is not held up by lengthy and unnecessary confusion regarding our rights and your obligation with regard to our Native title status.

Regards,

Scott Franks

Registered Native Title Claimant

NATIVE TITLE DETERMINATION APPLICATION

NSD1680/2013 Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People (NC2013/006)

- NSD1680/2013 Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People (NC2013/006) - Amended
- Water Catchment boundaries sourced from the NSW Natural Resource Atlas.

NOTE: To determine areas subject to claim within the external boundary, reference to the application description is necessary.

Application boundary data compiled by the NNTT.

Topographic image data is © Commonwealth of Australia and is used under licence from Geoscience Australia 2008

NOTE: Topographic images should be used as a guide only.

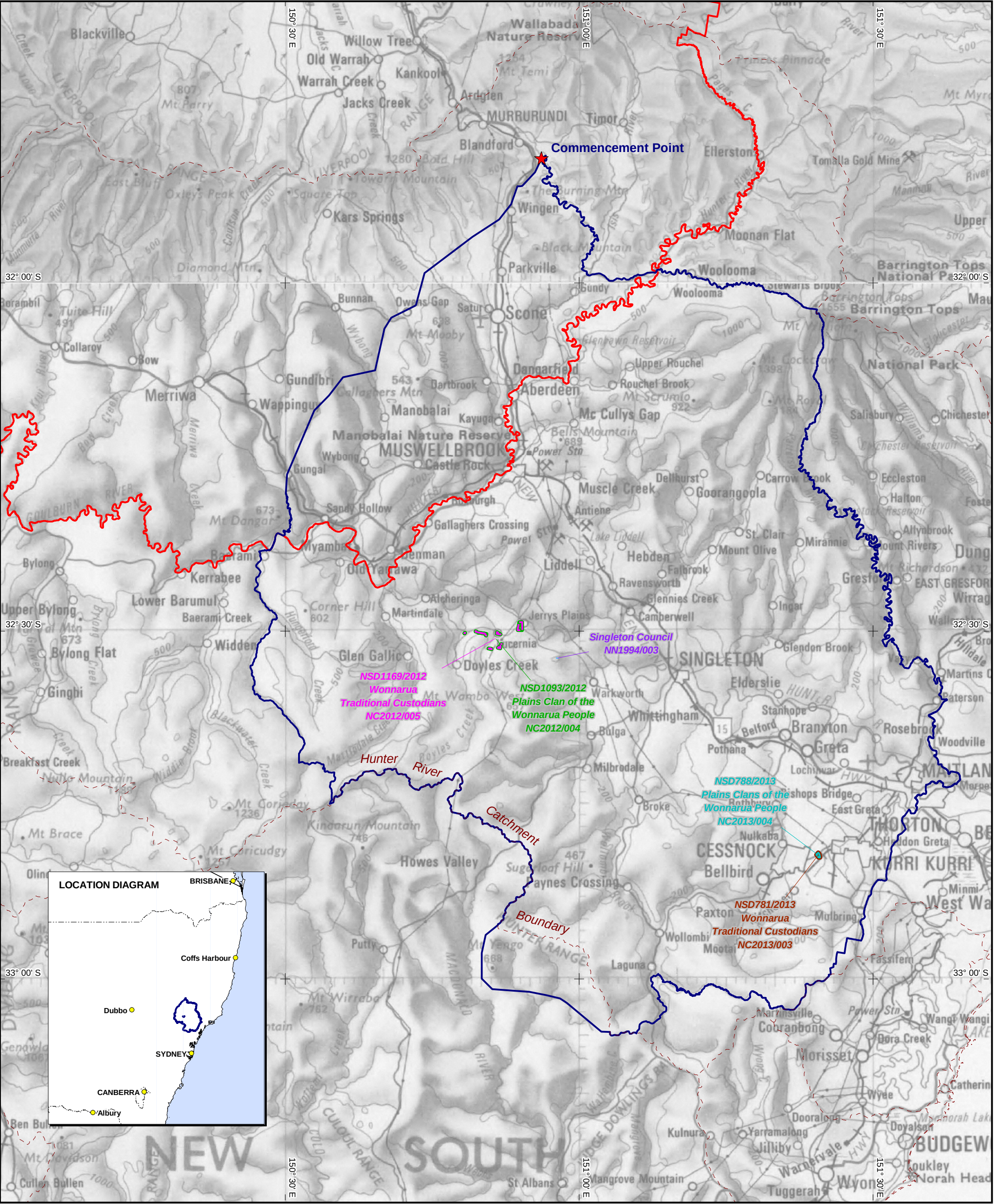
Map created by: Geospatial Services, National Native Title Tribunal (08/04/2014)



Latitude and Longitude based on Geocentric Datum of Australia 1994
Non Projection

© Commonwealth of Australia 2014

The Registrar, the National Native Title Tribunal and its staff, members and agents and the Commonwealth (collectively the Commonwealth) accept no liability and give no undertakings guarantees or warranties concerning the accuracy, completeness or fitness for purpose of the information provided. In return for you receiving this information you agree to release and indemnify the Commonwealth and third party data suppliers in respect of all claims, expenses, losses, damages and costs arising directly or indirectly from your use of the information and the use of the information you obtained by any third party.





Tocomwall Cultural & Heritage Consultants
Statement of Capabilities

Overview

“Integrating archaeology, landscape science and Aboriginal Cultural Knowledge for our sustainable future.”

The only Aboriginal owned and operated Cultural Heritage Consultancy Firm in the NSW / QLD region, Tocomwall is committed to integrating archaeology, landscape science and Aboriginal cultural knowledge to secure our sustainable future.

Our philosophy and practice is aimed at fostering an understanding amongst the broader community, the underlying basis of this being that strong relationships lead to ethical outcomes for Indigenous stakeholders and clients whilst satisfying regulatory requirements. We believe that we share a responsibility with both the business and Aboriginal community to conserve and manage the natural, cultural and archaeological heritage of Australia.

Tocomwall recognises that Aboriginal people are the primary determinants of their cultural heritage values and focuses on the full recognition, documentation, protection and/or management of cultural heritage values within ‘Country’.

Our combined experience offers over 60 years of assisting clients with achieving best practice cultural and heritage management outcomes. We have successfully attracted a number of established experts with proven track records of delivering quality archaeological, ecological and cultural heritage services across Australia.

Tocomwall Approach

Tocomwall applies a diligent approach to delivering meaningful results, successfully blending our knowledge of the needs of Aboriginal people with our technical archaeological expertise, astute knowledge and application of legislation and policy. This provides us with the ability to assist **both our clients and Aboriginal people** in negotiating regulatory compliance and understanding of commercial development imperatives, at the same time addressing the rights and responsibilities encompassed by intergenerational equity.

We are known for working efficiently, delivering timely yet stringently regulated outcomes, expediting processes wherever possible without compromising on compliance. As a result, our consultants have earned the respect of all stakeholders involved in large-scale infrastructure developments, from Aboriginal community representatives to government ministers, project managers and commercial directors.

We assist our clients achieve **Cultural and Heritage Management Outcomes** that:

- Reflect a Unique Combination of Aboriginal Cultural and Archaeological, Historical and Scientific Disciplines;
- Comply with State and Federal Requirements;
- Are both Practical and Cost-Effective to Adopt and Implement;
- Reflect the Ethics and the Pragmatics of the Principles of Ecologically Sustainable Development;
- Are Culturally Appropriate and Sensitive to Aboriginal Community Needs and Aspirations; and

- Address the Rights and Responsibilities Encompassed within the Term “Intergenerational Equity.”

Products and Services

Tocomwall provides a unique combination of cultural knowledge and scientific expertise, supported in turn by experience delivering large infrastructure projects and working in a wide range of industries. Our services include:

- Strategic Planning for Heritage and Environmental Projects;
- Input into Policy Development, Legislative Interpretation and Regulatory Amendments;
- Undertaking Cultural Significance and Value Assessments;
- Managing all aspects of Aboriginal Cultural Heritage projects;
- Managing all aspects of European Heritage projects;
- Providing Feasibility, Due Diligence and Pre-purchase Advice;
- Providing Expert Witness Services and Testimonials;
- Providing Specialist Assessments and Advice in the Fields of Artefact Analysis, Ecology, Geoarchaeology and Environmental Archaeology;
- Historical Research; and
- Independent Peer Reviews.

We offer comprehensive services to support land use, resource planning and development infrastructure projects, with experience encompassing:

- Government Cultural Assessments;
- Road and Rail Infrastructure Projects;
- Mine and Energy related Infrastructure Developments;
- Property Planning and Biodiversity Conservation Projects;
- Residential and Commercial Subdivisions; and
- Mine Rehabilitation and Remediation Projects.

8 May 2015

Attn: Nicole Davis
Office of Environment and Heritage
PO Box 488G
NEWCASTLE NSW 2300

Dear Nicole

RE: SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION – 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, 2010), a list of the Registered Aboriginal Parties that registered an interest in the community consultation process with Wambo Coal Pty Ltd for the South Bates (Wambo Seam) Underground Mine Modification is provided in Enclosure A.

Copies of the notification letters sent to the 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 faithfully



Micheal Alexander
Director Projects and Technical Services
WAMBO COAL PTY LTD

Enclosure A: Registered Aboriginal Parties for the South Bates (Wambo Seam) Underground Mine Modification

Enclosure B: Correspondence sent to Aboriginal Stakeholders

Enclosure C: Public Notice

ENCLOSURE A
REGISTERED ABORIGINAL PARTIES FOR THE SOUTH BATES
(WAMBO SEAM) UNDERGROUND MINE MODIFICATION

Table 1
Registered Aboriginal Parties for the South Bates (Wambo Seam) Underground Mine Modification

Registered Aboriginal Parties	
Aboriginal Native Title Consultants	Minnga Consultants
AGA Services	Moreeites
Bawurra Consultants	Muswellbrook Cultural Consultants
Breeza Plains Cultural Heritage Consultants	Myland Cultural Heritage Group
Bullen Bullen Heritage Consultants	Ronald Fenwick
Buudang	Jeffery Matthews
Cacatua Culture Consultants	Lorraine Towney
Carrawonga Consultants	Scott Smith
Culturally Aware	Roslyn Sampson
Deslee Talbott Consultants	Jill Green
DFTV Enterprises	Ngarramang-Kuri Aboriginal Culture & Heritage Group
DRM Cultural Management	Roger Noel Matthews
EMT Cultural & Heritage	Smith Dhagaans Cultural Group
Galamaay Consultant	T & G Culture Consultants
Gidawaa Walang Cultural Heritage Consultancy	Ungooroo Aboriginal Corporation
Giwiir Consultants	Ungooroo Cultural & Community Services
HECMO Consultants	Upper Hunter Heritage Consultants
Heilamon Cultural Consultants	Upper Hunter Wonnarua Council
HTO Environmental Management Services	Valley Culture
Hunter Valley Aboriginal Corporation	Waabi Gabinya Cultural Consultancy
Hunter Valley Cultural Consultants	Wanaruah Custodians Aboriginal Corporation
Hunter Valley Cultural Surveying	Wanaruah Local Aboriginal Land Council
Hunter Valley Natural & Cultural Resource Management	Warragil Cultural Services
I & E Aboriginal Culture and Heritage	Wattaka Wonnarua Cultural Consultantancy Services
Janbant Mugrebea	Widescope Indigenous Group
Kauwul (Wonn1)	Wonnarua Culture Heritage
Kawul Cultural Services	Wonnarua Nation Aboriginal Corporation
Kayaway Eco Cultural & Heritage Services	Wonnarua Traditional Owners
KL.KG Saunders Trading Services	Wurrumay Consultants
L.J. Cultural Management	Yarrawalk (a division of Tocomwall Pty Ltd)
Lower Hunter Aboriginal Incorporated	Yinaar Cultural Services
Lower Hunter Wonnarua Cultural Services	JLC Cultural Services
Maree /TA Wallangan Cultural Services	Plains Clans of the Wonnarua People Registered Native Title Party

8 May 2015

Attn: Noel Downs
Wanaruah Local Aboriginal Land Council
PO Box 1227
MUSWELLBROOK NSW 2333

Dear Noel,

RE: SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION – 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, 2010), a list of the Registered Aboriginal Parties that registered an interest in the community consultation process with Wambo Coal Pty Ltd for the South Bates (Wambo Seam) Underground Mine Modification is provided in Enclosure A.

Copies of the notification letters sent to the 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 faithfully



Micheal Alexander
Director Projects and Technical Services
WAMBO COAL PTY LTD

Enclosure A: *Registered Aboriginal Parties for the South Bates (Wambo Seam) Underground Mine Modification*
Enclosure B: *Correspondence sent to Aboriginal Stakeholders*
Enclosure C: *Public Notice*

ENCLOSURE A
REGISTERED ABORIGINAL PARTIES FOR THE SOUTH BATES
(WAMBO SEAM) UNDERGROUND MINE MODIFICATION

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L.J. Cultural Management	Yarrawalk (a division of Tocomwall Pty Ltd)
Lower Hunter Aboriginal Incorporated	Yinaar Cultural Services
Lower Hunter Wonnarua Cultural Services	JLC Cultural Services
Maree /TA Wallangan Cultural Services	Plains Clans of the Wonnarua People Registered Native Title Party

24 April 2015

Dear

**RE: PROPOSED METHODOLOGY FOR SOUTH BATES (WAMBO SEAM) UNDERGROUND
MINE MODIFICATION – CULTURAL HERITAGE IMPACT ASSESSMENT**

Please find enclosed for your review, a copy of the Proposed Methodology for the South Bates (Wambo Seam) Underground Mine Modification (the Modification).

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (New South Wales [NSW] Department of Environment, Climate Change and Water, 2010) issued by the NSW Office of Environment and Heritage, 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 Wambo Coal Pty Ltd (WCPL) (via the contact details provided at the end of this letter) by **5.00pm Wednesday 27 May 2015**:

- 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.

Information Session

An information session with all Registered Aboriginal Parties, the consulting archaeologist and WCPL representatives will be held on **Tuesday 26 May 2015** to discuss the Modification. The information session will be held at the WCPL administration offices, and will commence at **10:00am and conclude at approximately 12:00pm.**

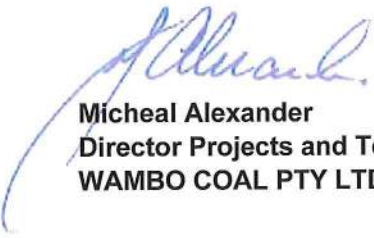
At this information session WCPL will provide a presentation on the nature and scale of the proposed Modification, an overview of the impact assessment process and discuss the roles, functions and responsibilities of participants and protocols for the management of any sensitive cultural heritage information. This information session will also provide Registered Aboriginal Parties with an opportunity to raise any cultural issues or comments/perspectives regarding the proposed Modification or the Proposed Methodology. Note that issues can also be raised at any point during the consultation process.

Can you please indicate whether you are interested in attending the information session by **Tuesday 19 May 2015**.

Any feedback with respect to the Proposed Methodology is to be provided by **5.00pm Wednesday 27 May 2015**. Please provide your feedback to WCPL via the following contact details:

Wambo Coal Pty Ltd
C/- Danielle Wallace
PO Box 1842, Milton QLD 4064
Mobile: 0414 833 397
Email: southbatesacha@gmail.com

Yours faithfully



Micheal Alexander
Director Projects and Technical Services
WAMBO COAL PTY LTD

Newcastle Office

Ground Floor, 241 Denison Street, Broadmeadow, NSW Australia 2292

PO Box 428, Hamilton, NSW Australia 2303

T +61 2 4940 4200 F +61 2 4961 6794 E newcastle@rpsgroup.com.au W rpsgroup.com.au

Our Ref: 126088-1:GG

Date: 24 April 2015

**RE: PROPOSED METHODOLOGY FOR THE SOUTH BATES (WAMBO SEAM)
UNDERGROUND MINE MODIFICATION – CULTURAL HERITAGE IMPACT ASSESSMENT**

Introduction

Wambo Coal Pty Ltd (WCPL) owns and operates the Wambo Coal Mine (Wambo), located approximately 15 kilometres west of Singleton in the Hunter Valley, New South Wales (NSW).

Wambo adjoins grazing land to the south, other coal mining operations to the east and north, grazing land to the north-west and the Wollemi National Park to the west and south-west (**Figure 1**, Attachment 1).

A range of open cut and underground mining operations have been conducted at Wambo since mining operations commenced in 1969. Mining under Development Consent (DA 305-7-2003) commenced in 2004 and currently both open cut and underground operations are conducted. The approved run-of-mine coal production rate is 14.7 million tonnes per annum and product coal is transported from Wambo by rail.

WCPL is seeking to engage with Registered Aboriginal Parties (RAPs) as part of the preparation for lodgement of a request to the NSW Minister for Planning under the NSW *Environmental Planning and Assessment Act, 1979* and the NSW *Environmental Planning and Assessment Regulation, 2000* to modify Development Consent (DA 305-7-2003) for Wambo, granted by the NSW Minister for Planning on 4 February 2004.

Following a review of mine planning and recent exploration results, WCPL has identified additional coal reserves in the Wambo Seam underneath the existing approved South Bates (Whybrow Seam) Underground Mine that can be economically mined with underground mining methods.

An Environmental Assessment will be prepared to support an application to modify the Wambo Development Consent (DA 305-7-2003) to allow for additional mining within the footprint of the approved South Bates Underground Mine, referred to as the South Bates Underground Mine Modification (the Modification).

The proposed Modification would include the addition of three longwall panels in the Wambo Seam below the three approved longwall panels in the Whybrow Seam at the approved South Bates (Whybrow Seam) Underground Mine (**Figure 1**, Attachment 1). The proposed Modification Area and extant sites is shown on **Figure 2** and sites previously salvaged on **Figure 3** in Attachment 1.

Existing and approved Wambo and South Bates Underground Mine infrastructure would be utilised for the Modification.

An Environmental Assessment would be prepared for the Modification and it is expected to include the following key specialist assessments:

- Cultural Heritage Impact Assessment (CHIA);
- subsidence assessment;
- groundwater assessment;
- surface water assessment; and
- terrestrial flora and fauna assessments.

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW] 2010), WCPL will be preparing a CHIA for the Modification. Should impact to Aboriginal heritage sites be unavoidable, WCPL would seek a variation to its existing Aboriginal Heritage Impact Permit (Consent # 2222) for the Modification.

The Proposed Methodology for the CHIA for the Modification Area (**Figure 2**, Attachment 1) is outlined below. WCPL invites the RAPs to provide comments (either verbally or in writing) on the Proposed Methodology.

Previous Archaeological Investigations

Various Aboriginal cultural heritage survey and assessments have previously been undertaken at Wambo including (but not limited to):

- Wambo Development Project Environmental Impact Statement (White 2003).
- Application for Permit Under Section 87 and Consent Under Section 90 of the National Parks and Wildlife Act 1974 (Wambo Coal Pty Limited 2005).
- Montrose East Underground Mine Modification: Aboriginal Cultural Heritage Impact Assessment (RPS 2011).
- North Wambo Underground Mine Modification: Cultural Heritage Impact Assessment (RPS 2012).
- North Wambo Underground Mine Modification Longwall 10A: Cultural Heritage Impact Assessment (RPS 2013)
- Wambo Coal Pty Ltd staged salvage 2009 – 2014. Six artefact sites have been previously salvaged within the Modification Area.

Based on the results of the previous investigations, a total of two extant Aboriginal heritage sites have been identified within the Modification Area (Attachments 1 and 2). No other extant sites lie in close proximity to the Modification Area. **Figure 2** (Attachment 1) shows the Modification Area and the location of previously registered and extant Aboriginal heritage sites (i.e. sites registered on the Aboriginal Heritage Information Management System (AHIMS) database that have not been subject to salvage as they lie outside of the current Consent #2222 S87/S90 boundary). Attachment 2 provides further information on the registered extant Aboriginal heritage sites within the Modification Area.

Figure 3 (Attachment 1) shows the Modification Area and the location of salvaged Aboriginal heritage sites within Consent #2222 S87/S90 boundary (i.e. sites previously registered on the AHIMS database that have since been subject to salvage under Consent #2222). Attachment 3 provides further information on the previously salvaged Aboriginal heritage sites within the Modification Area.

Proposed Methodology

The Proposed Methodology for the CHIA is as follows:

- Provision of existing information on Aboriginal heritage sites within the Modification Area and surrounds (**Figures 1, 2 and 3**, Attachment 1). Attachment 2 lists details of the registered extant Aboriginal heritage sites within the Modification Area. Attachment 3 lists details of the salvaged Aboriginal heritage sites within the Modification Area.
- Organisation of field survey to enable RAPs (according to the existing and established roster system) to inspect the Modification Area and Aboriginal heritage sites/areas of interest within the Modification Area.
- Modification Information Session to enable RAPs to review maps and other information relating to the Modification Area, review information relating to the previously recorded sites and an opportunity to have input into the CHIA and management processes, including providing cultural information relevant to the proposed Modification.
- Conduct an archaeological assessment (including an archaeological significance assessment) of Aboriginal heritage sites within the Modification Area (which will include the use of existing information).
- A request by WCPL to the RAPs for additional comments regarding the cultural significance of Aboriginal heritage sites and/or areas within the Modification Area.
- In consultation with the RAPs, identification of recommended management and mitigation measures for Aboriginal heritage sites/areas within the Modification Area.
- Provision of a draft CHIA to all RAPs for review and comment.
- Documentation of feedback from RAPs received as part of the draft CHIA review for presentation in the final CHIA report (subject to the sensitivity of the information provided).

WCPL requests that, in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) the RAPs provide cultural information during the CHIA reporting process (where relevant) whether there are:

- Aboriginal objects of cultural value to Aboriginal people in the Modification Area or surrounds; and
- places of cultural value to Aboriginal people in the Modification Area or surrounds.

This may include places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance.

Sensitive Cultural Information - Management Protocol

In the event that a RAP has sensitive or restricted public access information it is proposed that WCPL would manage this information (if provided by the Aboriginal community) in accordance with a sensitive cultural information management protocol. It is anticipated that the protocol would include making note of and managing the material in accordance with the following key limitations/requirements as advised by Aboriginal people at the time of the information being provided:

- any restrictions on access to the material;
- any restrictions on communication of the material;
- any restrictions on the location/storage of the material;
- any cultural recommendations on handling the material;
- any contextual information;
- any names and contact details of persons authorised by the relevant Aboriginal stakeholder to make decisions concerning the Aboriginal material and the degree of authorisation;
- any details of any consent given in accordance with customary law;
- the level of confidentiality to be accorded to the material; and
- any access and use by the RAPs, of the cultural information in the material evidence.

All RAPs should be aware of the mandatory NSW Office of Environment and Heritage requirement that all feedback provided must be documented in the final Aboriginal cultural heritage assessment report, including copies of any submissions received and the proponents response to the issues raised.

Cultural Heritage Impact Assessment Report

Following the undertaking of any required field components and consultation on the Proposed Methodology, a draft CHIA report will be prepared. The draft CHIA report will be provided to the RAPs for review and comment and will include:

- Details of the objects and places identified within the Modification Area and an assessment of potential impacts from the Modification.
- Detailed records of the consultation conducted with RAPs and how comments received throughout the assessment process were considered.
- Management and mitigation recommendations drawing on information provided by RAPs and the results of the CHIA.

Critical Timelines

Critical timelines for the Modification CHIA are outlined below. Please note that these timelines are estimates at this early stage in the process and are provided to allow forward planning of personnel and resources. WCPL will provide subsequent notification and clarification (i.e. actual dates and approach for field work participation) of the below timelines, once greater certainty is available.

- (1) Collation of culturally significance information: **Ongoing throughout process** until end of draft CHIA report review period.
- (2) Information Session – **26 May 2015**.
- (3) Provision of comments on Proposed Methodology to WCPL due **27 May 2015**.
- (4) Field survey 2 days, **late May** or **early June 2015**. Relevant RAPs will be notified of specific dates, once available.
- (5) Provision of a draft CHIA (including proposed management and mitigation measures) to RAPs for review and comment: **June 2015** (following field survey).
- (6) Provision of comments (from RAPs) on draft CHIA to WCPL: **July 2015** (minimum 28 day review period for draft CHIA).
- (7) Finalise CHIA in consideration of comments received: **August 2015**.

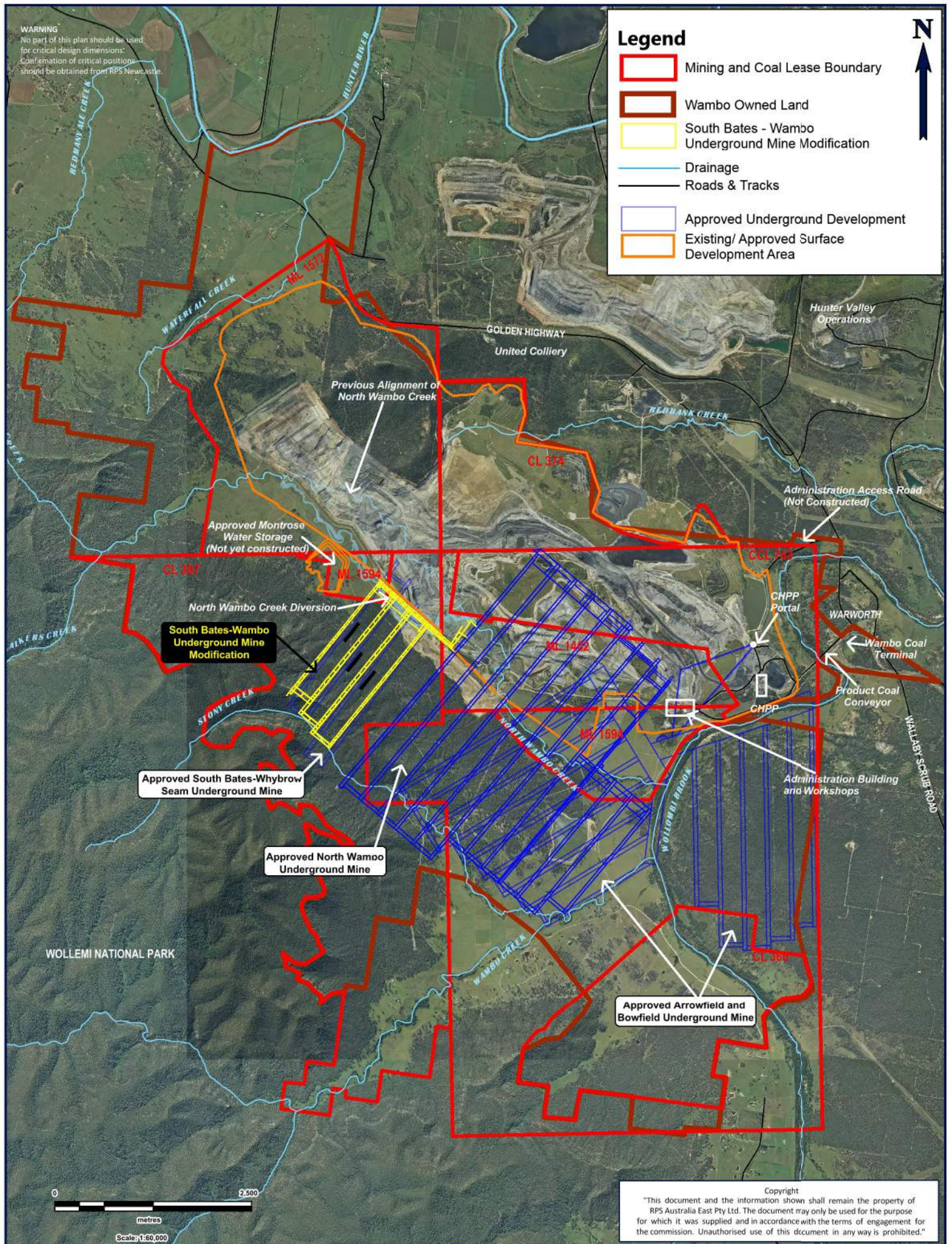
References

- DECCW. 2010. "Aboriginal cultural heritage consultation requirements for proponents 2010 Part 6 National Parks and Wildlife Act." Sydney: Department of Environment Climate Change and Water NSW.
- RPS. 2011. "Montrose East Underground Modification: Aboriginal Cultural Heritage Impact Assessment." Wambo Coal Pty Ltd.
- RPS. 2012. "North Wambo Underground Mine Modification: Cultural Heritage Impact Assessment." Prepared for Wambo Coal Pty Ltd.
- RPS. 2013. "North Wambo Underground Mine Modification Longwall 10A: Cultural Heritage Impact Assessment." Prepared for Wambo Coal Pty Ltd.
- Wambo Coal Pty Limited. 2005. "Application for Permit Under Section 87 and Consent Under Section 90 of the National Parks and Wildlife Act 1974." Wambo Coal Pty Limited.
- White, E. 2003. "Wambo Development Project Environmental Impact Statement. Appendix D, Volume 3: Aboriginal Heritage Assessment." Wambo Coal Mine Pty Ltd.



ATTACHMENT 1

SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION AREA



TITLE: FIGURE 1: WAMBO COAL MINE LAYOUT

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

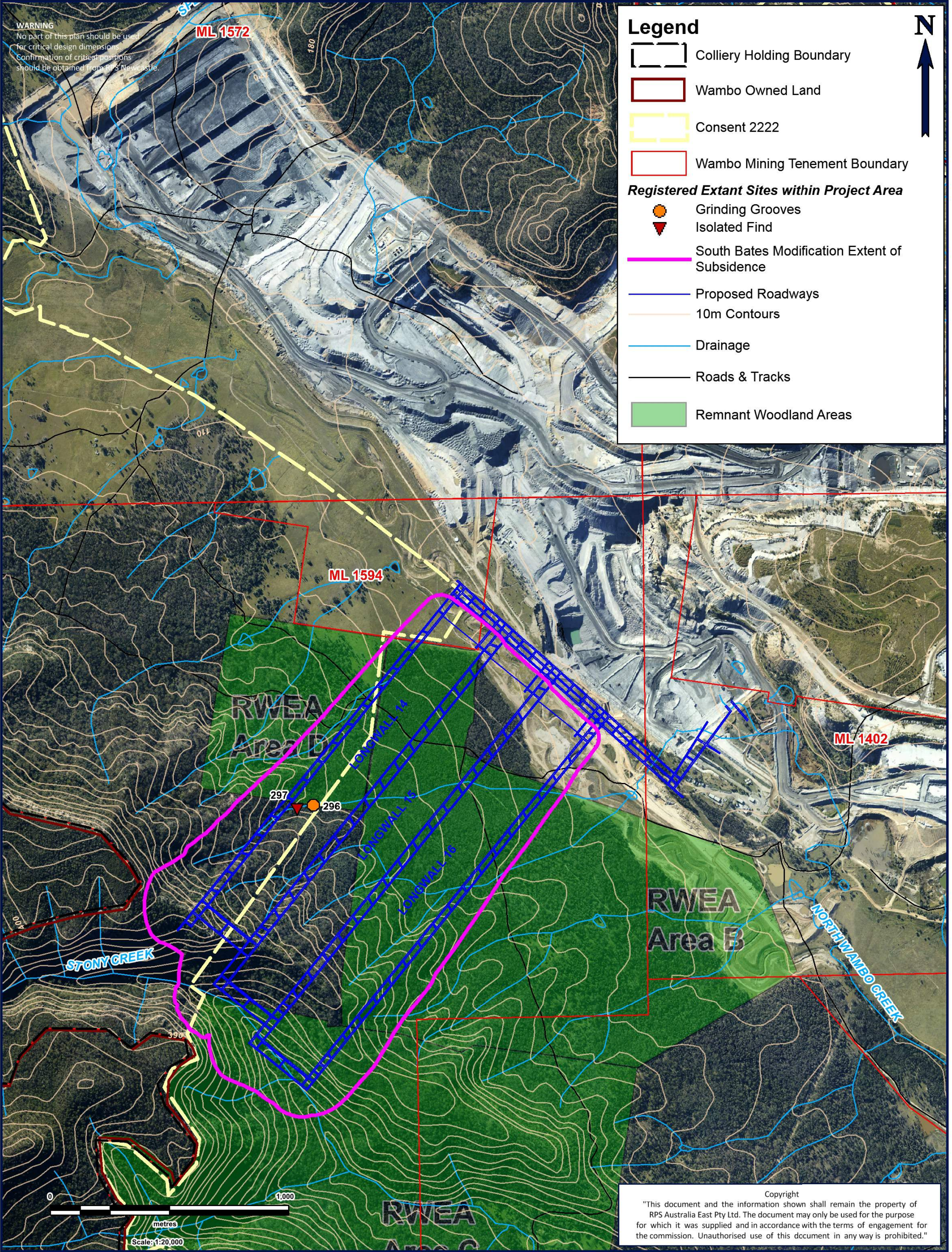
DATE: 8/04/2015
PURPOSE: HERITAGE

LAYOUT REF: I:\JOBS\Wambo\Wambo Mapping Database
VERSION (PLAN BY): A A4 (NW-GG)

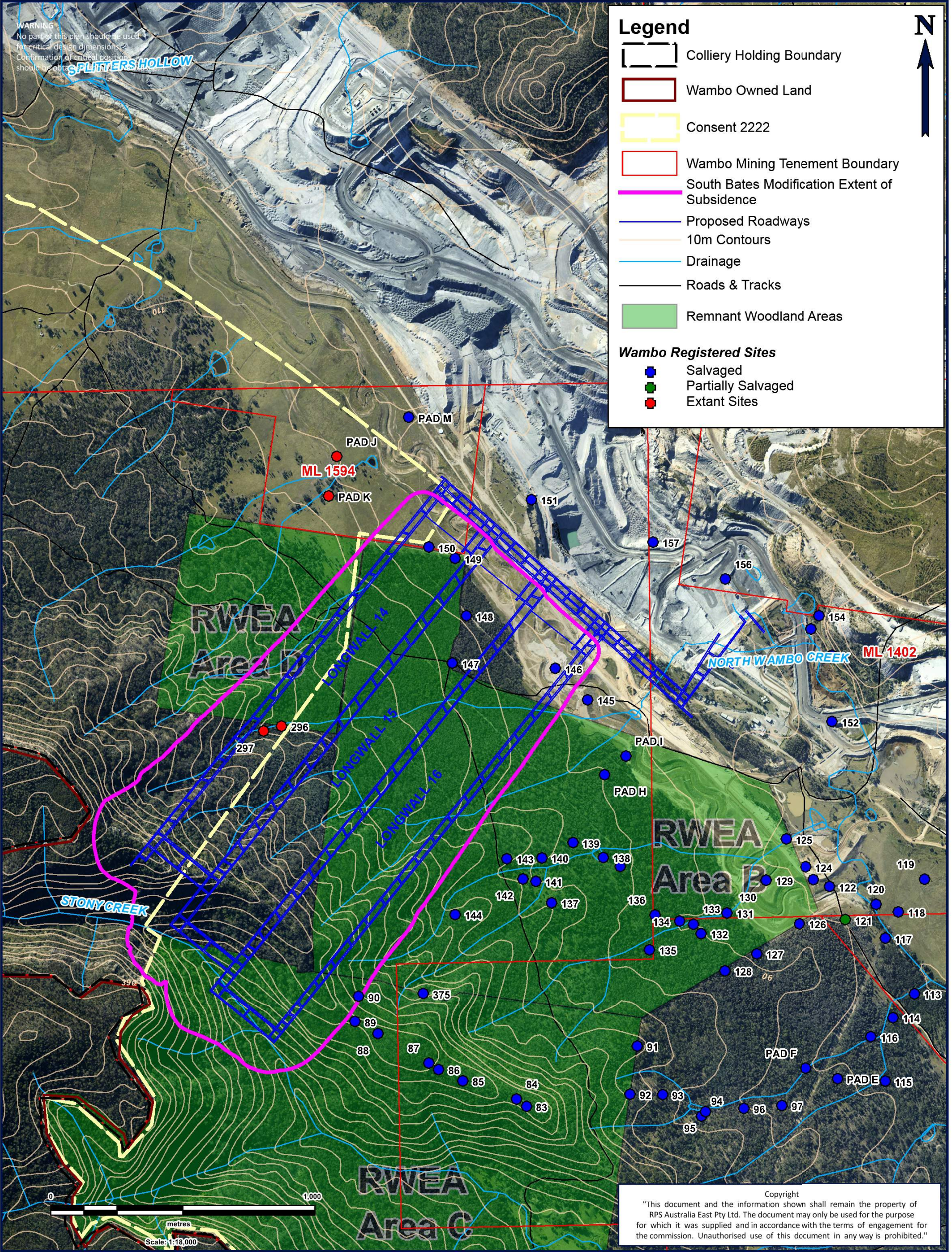
CLIENT: WAMBO COAL PTY LTD
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS



TITLE: FIGURE 2: SOUTH BATES MODIFICATION PROJECT AREA WITH REGISTERED EXTANT SITES	LOCATION: WAMBO MINE	DATUM: (GDA 94) PROJECTION: MGA ZONE 56	DATE: 13/04/2015 PURPOSE: HERITAGE	LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database Archaeology\126088-1 South Bates Modification VERSION (PLAN BY): B A4 (NW-GG)
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ATTACHMENT 2

REGISTERED EXTANT ABORIGINAL SITES WITHIN THE MODIFICATION AREA

Extant Sites within the South Bates Underground Mine Modification Area

Wambo Site Name (Refer Figure 2, Attachment 1)	AHIMS #	Easting (GDA 94)	Northing (GDA 94)	Site Type
296	37-5-0590	307,825.4038	6,393,821.937	Grinding Groove
297	37-5-0591	307,757.6724	6,393,803.101	Isolated Find

ATTACHMENT 3

SALVAGED ABORIGINAL SITES WITHIN THE MODIFICATION AREA

Salvaged Sites within the South Bates Underground Mine Modification Area

Wambo Site Name (Refer Figure 3, Attachment 1)	AHIMS #	Easting (GDA 94)	Northing (GDA 94)	Site Type
90	37-5-0477	308117	6392801	Isolated Find
146	37-5-0394	308859	6394039	Isolated Find
147	37-5-0395	308470	6394059	Artefact Scatter
148	37-5-0397	308523	6394239	Artefact Scatter
149	37-5-0399	308480	6394498	Isolated Find
150	37-5-0401	308381	6394498	Isolated Find

20 May 2015

Wambo Coal Pty Ltd
c/- Danielle Wallace
PO BOX 1842
MILTON Qld 4064

Dear Danielle,

Re: Consultation with the Registered Native Title Claimant; the Plains Clan of the Wonnarua People (PCWP)

We refer to correspondence provided by NTSCORP; Reference OE&H 20-3-15/1 (20 March 2015) and Notification of the Proposed Methodology (24 March 2015) provided by you on behalf of Wambo Coal Pty Ltd.

Tocomwall Pty Ltd is the registered organisation acting on behalf of the PCWP in relation to consultation associated with the Wambo Coal Mine South Bates Modification Project (Project). The PCWP are of the view that Native Title Registration now affords the claimant group additional rights regarding the level of consultation for the Project.

Under the Office of Environment and Heritage's (OEH) guidelines; *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Section 3.2:

"The objective of community consultation is to ensure that Aboriginal People have the opportunity to improve assessment outcomes by:

- ***Providing relevant information about the cultural significance and values of Aboriginal Object(s) and/or Place(s)."***

The Members of the PCWP have demonstrated through an extremely rigorous legislative process that they held, and still hold a strong connection to all areas within the Claimant boundary. As such, Members of the Claimant group are of the view that an additional level of consultation regarding the Project should be afforded to the group.

We understand that Proponents are required to fulfil their legal obligations under the *National Parks and Wildlife Act 1974* and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. However, given the significance of the Native Title Registration process, the PCWP request that Wambo Coal Pty Ltd engage in further and more detailed consultation so that the Project can benefit from the accuracy of knowledge afforded by the Registered Traditional Owners.

The PCWP have concerns that the historical consultation process whereby all Registered Aboriginal Parties are afforded equal consultation rights has the potential to negatively

impact on the Aboriginal Cultural Heritage Assessment process. Furthermore, implementation of a fieldwork rostering system could result in a level misinformation, whereby Registered Aboriginal Parties that are not part of the PCWP Claimant group are afforded an opportunity to comment on the cultural significance and values found in the study area. The PCWP are concerned that such a process may result in consultation and fieldwork misrepresenting, and potentially lowering the cultural value and scientific significance of Aboriginal sites associated with Project area.

Tocomwall cannot agree with the methodology and therefore the approach undertaken which totally ignores our traditional protocols. We respectfully request that Wambo Coal Pty Ltd consider our concerns and we look forward to early and more detailed consultation regarding the Project.

If you have any questions regarding our request or would like to arrange a face-to-face meeting with representatives of the PWCP, please contact Scott Franks on 0404 171544.

Yours Faithfully



Scott Franks
Registered Claimant (PCWP)

26 May 2015

Attn: Scott Franks
Tocomwall Pty Ltd
PO Box 76
CARINGBAH NSW 1495

via email: scott@tocomwall.com.au

Dear Scott

RE: SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION

Wambo Coal Pty Ltd (WCPL) acknowledges receipt of your correspondence dated 20 May 2015 in which you advise that Tocomwall Pty Ltd is the representative for the Registered Native Title Party *The Plains Clan of the Wonnarua People*.

As noted in your correspondence, WCPL is required to comply with the 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). In accordance with this policy WCPL is required to consult with all Registered Aboriginal Parties.

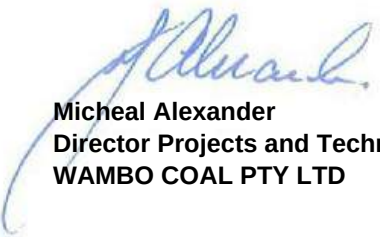
WCPL acknowledges your comments on the Proposed Methodology for the Modification. Please note that WCPL considers that the consultation process for the Modification Cultural Heritage Impact Assessment (CHIA) is in compliance with the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010).

WCPL would appreciate your involvement in the field surveys for the Modification, which are scheduled to be undertaken on Thursday 28 and Friday 29 May 2015 (as per our correspondence to you dated 1 May 2015). Please advise WCPL if you intend to send a site representative to the surveys.

WCPL would also appreciate any cultural information that Tocomwall Pty Ltd or the Registered Native Title Party *The Plains Clan of the Wonnarua People* has relating to the Modification area and is willing to share for inclusion in the CHIA. This information can be provided at any time during the assessment including at the Proposed Methodology information session on Tuesday 26 May 2015, during the field surveys, during review of the draft CHIA, at the draft CHIA information session or at any other time during development and finalisation of the CHIA.

Please do not hesitate to contact the undersigned should you have any queries.

Yours faithfully



Micheal Alexander
Director Projects and Technical Services
WAMBO COAL PTY LTD

14 July 2015

Attention:

Dear

**RE: SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION – DRAFT
CULTURAL HERITAGE IMPACT ASSESSMENT**

Please find enclosed for your review, a copy of the draft Cultural Heritage Impact Assessment (CHIA) for the South Bates (Wambo Seam) Underground Mine Modification (the Modification).

Review of Draft CHIA

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (New South Wales [NSW] Department of Environment, Climate Change and Water, 2010) issued by the NSW Office of Environment and Heritage, we have provided the draft CHIA 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 draft CHIA.

If you wish to provide input on the following, please make a submission to Wambo Coal Pty Limited (WCPL) by **5.00pm 14 August 2015**:

- 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 CHIA is finalised. Any feedback with respect to the draft CHIA is to be provided by **5.00pm 14 August 2015**. Please provide your feedback to WCPL via the following contact details:

Steven Peart
Environment and Community Manager
Wambo Coal Pty Ltd
PMB1, Singleton NSW 2330
Phone: (02) 6570 2209
Email: speart@peabodyenergy.com

Draft CHIA Information Session

WCPL will be facilitating an on-site meeting for all Registered Aboriginal Parties on **Tuesday 4 August 2015** at the Wambo Coal Mine Mine administration offices, commencing at 10.00am and concluding at approximately 11.00am. Directions to the site can be provided if required.

The purpose of the meeting is to discuss the findings of the draft CHIA. The meeting will also provide Registered Aboriginal Parties an opportunity to comment on the draft CHIA particularly the cultural significance and proposed management measures.

Could you please indicate whether you are interested in attending the information session by Thursday 30 July 2015, via the contact details provided above.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Steve Peart', is written over the printed name and title.

Steve Peart
Environment and Community Manager
WAMBO COAL PTY LTD



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: wanaruah@bigpond.net.au

14 August 2015

Mr S Peart
Environment and Community Manager
Wambo Coal Pty Ltd
PMB1, Singleton NSW 2330
Email: speart@peabodyenergy.com

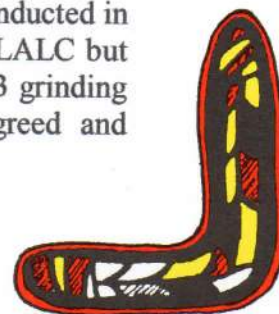
Dear Steven

**RE: SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE
MODIFICATION – DRAFT CULTURAL HERITAGE IMPACT
ASSESSMENT**

This letter from the Wanaruah LALC does not express the views of any other Aboriginal stakeholder group or groups (whether their representatives are members of the LALC or not) who have chosen to speak in their own right. The comments provided are considered appropriate under Clause No. 42(4) (a) and (b) of the Aboriginal Land Rights Act (1983) (and its amendments) in relation to the role of the LALC in the protection and the promotion of awareness in the community, of culture and heritage for Aboriginal people within its boundary.

Thank you for your letter and the above draft report dated July 2015 for the above project. Having reviewed the document we acknowledge that it is proposed to dig 3 additional long wall panels with the already consented mining area. Access is to be provided through the existing open cut mine.

Regular surveys have been undertaken within the mine lease area over the last 6 years under an established roster system. The surveys in the modification area conducted in May and June this year, did not include fieldworkers from the Wanaruah LALC but we believe that 9 previously recorded sites were revisited and an addition 3 grinding groove sites were found in the creek bed of Stony Creek. It is agreed and



recommended that these and the other 4 previously recorded grinding groove sites are of high significance to the Aboriginal people and that measures must be taken to ensure that they are not subjected to any subsidence damage and if so, that appropriate actions are taken to mitigate the effects. Appropriate recording of these sites must be undertaken prior to any long wall mining commencing within the modification area.

It is also agreed and recommended that the artefact sites known to be present are to remain in situ unless they are to be impacted in the future (or new sites found) and should this happen, not only should an archaeologist be present but all the RAPs are to be consulted and present at any salvage exercise.

The Wanaruah LALC is in agreement with the 7 recommendations provided by RPS Australia East Pty Ltd in the draft report and look forward to be involved in any recording exercise for the grinding groove sites.

We look forward to continuing the consultation and participation process in a fair and equitable manner.

Kind regards

A handwritten signature in black ink, appearing to read 'Suzie Worth', with a stylized flourish at the end.

Suzie Worth
Indigenous Archaeologist
Wanaruah Local Aboriginal Land Council



Wonn1
Entity of Kauwul Pty Ltd

619 Main Road Glendale, 2285

PHONE: 0249547751 Mobile: 0402146193

ABN: 27 153 953 363

14 August 2015

Mr S Peart
Environment and Community Manager
Wambo Coal Pty Ltd
PMBI, SINGLETON NSW 2330
Email: speart@peabodyenergy.com

Dear Steven

**RE: SOUTH BATES (WAMBO SEAM) UNDERGROUND MINE MODIFICATION – DRAFT
CULTURAL HERITAGE IMPACT ASSESSMENT**

Thank you for the opportunity to review the above draft report.

We have reviewed the document and agree with the recommendations – however it must be stressed that the grinding groove sites are of high cultural significance and it is a concern that the long wall mining may cause some subsidence in the Stony Creek/North Wambo Creek locations. It is therefore imperative that the sites be recorded for future generations and that regular monitoring with actions undertaken by qualified geological engineers be taken should considerable damage occur. The recording of these grinding grooves must be carried out and completed prior to any underground work commencing. A meeting should be arranged with all the RAP invited to discuss what recording methodologies will be used to ensure that the historic record of the sites is preserved for our future generations.

The artefact sites are not to be salvaged unless they are going to be impacted in the future.

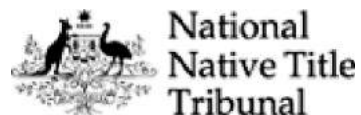
We look forward to continuing the consultation process with your organisation.

Kind regards

Suzie Worth
For Arthur C Fletcher
Wonn1 (Kauwal Pty Ltd)

Appendix 3

National Native Title Tribunal Search



Register of Native Title Claims Details

[Back to search results](#)

NC2013/006 - Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People

Tribunal file no.	NC2013/006
Federal Court file no.	NSD1680/2013
Application name	Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People
State or Territory	New South Wales;
Representative A/TSI body area(s)	New South Wales
Local government area(s)	Cessnock City Council, Dungog Shire Council, Hawkesbury City Council, Maitland City Council, Muswellbrook Shire Council, Singleton Shire Council, Upper Hunter Shire Council
Date filed	19/08/2013
Date claim entered on Register	16/01/2015

Register extract and attachments

Register extract	RNTCExtract_NC2013_006.pdf
Register extract attachment/s	NC2013-006 Attachment C Map.pdf RNTC Attachment B1 External boundary description.pdf

RNTC Attachment B2 - Areas not covered by the application.pdf

Extract from the Register of Native Title Claims

Application Information

Application Reference: Federal Court number: NSD1680/2013
NNTT number: NC2013/006

Application name: Scott McCain Franks & Anor v State of New South Wales (Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People)

Registration History: Registered from 16/01/2015

Register Extract (pursuant to s. 186 of the *Native Title Act 1993*)

Application filed with: Federal Court of Australia

Date application filed: 19/08/2013

Date claim entered on Register: 16/01/2015

Applicants: Scott McCain Franks, Robert John Lester

Address for service: Scott McCain Franks and Robert John Lester

17 River Road
Emu Plains NSW 2750
Phone: 0415 787 844

Additional Information:

Not Applicable

DESCRIPTION OF THE AREA COVERED BY THE CLAIM:

External boundary description

The application area covers all the land and waters within the external boundary described as:

Commencing at a point on the southern bank of the Pages River, also being a north western corner of Lot 11 on DP626664, and extending generally north easterly and generally south easterly and generally southerly along that bank to the northern boundary of Miranee Road; then generally southerly along that boundary to the northern boundary of Hunter Road; then generally easterly along that boundary to the southern bank of Stewarts Brook; then generally easterly along that bank to its headwaters at Longitude 151.403010° East, Latitude 32.037800° South and onwards to the eastern boundary of the Hunter River catchment at Latitude 32.038192° South; then generally southerly along that catchment boundary to Longitude 151.407614° East; then south easterly to the headwaters of the

Patterson River at Longitude 151.409652° East, Latitude 32.047240° South; then generally southerly along the centreline of the Patterson River (passing through Lostock Dam) and onwards to the southern bank of the Hunter River, being the easternmost corner of Lot 1 on DP520557; then generally westerly along that bank to the eastern bank of Wallis Creek; then generally southerly along that bank to the south eastern boundary of an unnamed road reserve being a prolongation of Louth Park Road; then generally south westerly and generally south easterly along the boundaries of those roads to the north western boundary of Buchanan Road; then generally south westerly, generally westerly, again generally south westerly and generally southerly along that boundary, an unnamed road, George Booth Drive, Richmond Vale Road, Maitland Road and Leggetts Drive (Freemans Drive) to the northeast corner of Lot 21 on DP811883; then generally westerly along the northern boundary of that lot, Lot 7002 on DP93611, Gills Lane and unnamed road to the south western corner of Lot 820 on DP1165469; then southerly, westerly and generally southerly along the western boundaries of Lot 99 on DP755244, Lot 109 on DP755244, Heaton State Forest and Lot 53 on DP755244 to Wallis Creek at latitude 36.0000 South; then generally southerly and generally south westerly along the centreline of that creek to Longitude 151.427251° East; then southerly to the southwest corner of Lot 115 on DP755244 to intersect the southern boundary of the Hunter River catchment; then generally south westerly along that southern boundary to Longitude 151.348681° East; then northwest to the headwaters of Watagan Creek at Longitude 151.348593° East, Latitude 33.043104° South; then generally westerly along the centreline of Watagan Creek to Wollombi Brook; then generally south easterly along the centreline of that brook to Fernances Creek; then generally south westerly along the centreline of that creek to its headwaters at Longitude 151.098910° East, Latitude 33.074560° South; then southerly to a point on the southern boundary of Hunter River catchment at Longitude 151.097259° East; then generally westerly and generally northerly along that catchment boundary to Latitude 33.076127° South; then generally westerly and generally northerly to a point again on the southern boundary of Hunter River catchment Latitude 32.922318° South, passing through the following coordinated points.

Longitude ° East

Latitude ° South

151.038001

33.075602

150.979054

33.034372

150.967330

33.207700

150.943839

33.022973

150.915353

33.018197

150.886867

33.016832

150.852475

33.014331

150.834462

32.999405

150.834462

32.962365

150.841271

32.936566

Then generally northerly and generally westerly along the southern boundary of that catchment area to Longitude 150.582247° East, Latitude 32.746250° South; then south westerly to the headwaters of an unnamed creek at

Longitude 150.575770° East, Latitude 32.748320° South; then generally northerly along the centreline of that unnamed creek to Martindale Creek; then generally westerly along the centreline of that creek and an unnamed creek to Longitude 150.523690° East; then northerly to the headwaters of Baerami Creek at Longitude 150.523500° East, Latitude 32.676180° South; then generally northerly along the centreline of that creek to the Goulburn River; then generally north easterly along the centreline of that river to the Worondi Rivulet; then generally northerly along the centreline of that rivulet to Latitude 32.302770° South; then generally northerly and generally north easterly back to the commencement point, passing through the following coordinate points.

Longitude ° East

Latitude ° South

150.502904

32.275093

150.549670

32.182977

150.574377

32.161718

150.598202

32.135240

150.652910

32.125544

150.668794

32.065873

150.680265

32.409837

150.722178

32.032116

150.737178

31.985805

150.818359

31.933518

150.863959

31.908708

150.884154

31.886843

150.895066

31.860965

150.900115

31.860826

150.903372

31.860411

150.925196

31.840622

Exclusions:

This application excludes land and waters subject to the following Native Title Determination Applications:

- NSD1093/12 - Plains Clans of the Wonnarua People #2 (NC2012/004) as accepted for registration 14/09/2012.
- NSD1169/12 - Wonnarua Traditional Custodians (NC2012/005) as accepted for registration 14/09/2012.
- NSD788/13 – Wonnarua Traditional Custodians (NC2013/003) as accepted for registration 13/05/2013.
- NSD781/13 - Plains Clans of the Wonnarua People (NC2013/004) as accepted for registration 13/05/2013.

PERSONS CLAIMING TO HOLD NATIVE TITLE:

The members of the native title claim group are the biological descendants of

(a) Emily (who was born in approximately 1840, and was the mother of Henry Frederick Taggart who was born in Howes Valley, Broke in 1859 and who died on 5 March 1941 in the district of Singleton); and

(b) Mary Shoe (who was born approximately 1800 in the Singleton district, and who was the mother of Matilda Hughes who was born 1832 at Sydenham near Singleton, who married James Arthur Smith on 28 December 1856 at Fallbrook and who died on 5 October 1913 at Bridgeman, Patricks Plains Shire).

REGISTERED NATIVE TITLE RIGHTS AND INTERESTS:

The following Native Title Rights & Interests were entered on the Register on 16/01/2015

1. Over areas where a claim to exclusive possession can be recognised (such as where there has been no prior extinguishment of native title, or where ss.47, 47A or 47B apply), the native title claim group claims the right to possess occupy, use and enjoy the lands and waters of the application area as against the whole world, pursuant to the traditional laws and customs of the claim group.

2. Over areas where a claim to exclusive possession cannot be recognised, the native title claim group claims the following rights and interests:

- (a) the right to access the application area;
- (b) the right to camp on the application area;
- (c) the right to erect shelters on the application area;
- (d) the right to live on the application area;
- (e) the right to move about the application area;
- (f) the right to hold meetings on the application area;
- (g) the right to hunt on the application area;
- (h) the right to fish on the application area;
- (i) the right to use the natural water resources of the application area including the beds and banks of the watercourses;
- (j) the right to gather the natural products of the application area (including: food, medicinal plants, timber, stone, ochre and resin) according to traditional laws and customs;
- (k) the right to conduct ceremony on the application area;
- (l) the right to participate in cultural activities on the application area;
- (m) the right to maintain places of importance under traditional laws, customs and practices in the application

area;

(n) the right to protect places of importance under traditional laws, customs and practices in the application area;

(o) the right to conduct burials on the application area;

(q) the right to cultivate and harvest native flora according to traditional laws and customs; and

3. The native title rights and interests are subject to and exercisable in accordance with:

(a) the laws of the State of New South Wales and the Commonwealth of Australia;

(b) the rights (past or present) conferred upon persons pursuant to the laws of the commonwealth and the laws of the state of New South Wales; and

(c) the traditional laws acknowledged and the traditional customs observed by the native title claim group.

REGISTER ATTACHMENTS:

1. RNTC Attachment B1 External boundary description, 4 pages - A4, 08/12/2014

2. RNTC Attachment B2 Areas not covered by the application, 1 page - A4, 25/06/2014

3. RNTC Attachment C Map, 1 page - A4, 25/06/2014

Note: The Register of Native Title Claims may, in accordance with s. 188 of the Native Title Act 1993, contain confidential information that will not appear on the Extract.

NSD1680/2013 Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People – (NC2013/006)

External boundary description

The application area covers all the land and waters within the external boundary described as:

Commencing at a point on the southern bank of the Pages River, also being a north western corner of Lot 11 on DP626664, and extending generally north easterly and generally south easterly and generally southerly along that bank to the northern boundary of Miranee Road; then generally southerly along that boundary to the northern boundary of Hunter Road; then generally easterly along that boundary to the southern bank of Stewarts Brook; then generally easterly along that bank to its headwaters at Longitude 151.403010° East, Latitude 32.037800° South and onwards to the eastern boundary of the Hunter River catchment at Latitude 32.038192° South; then generally southerly along that catchment boundary to Longitude 151.407614° East; then south easterly to the headwaters of the Patterson River at Longitude 151.409652° East, Latitude 32.047240° South; then generally southerly along the centreline of the Patterson River (passing through Lostock Dam) and onwards to the southern bank of the Hunter River, being the easternmost corner of Lot 1 on DP520557; then generally westerly along that bank to the eastern bank of Wallis Creek; then generally southerly along that bank to the south eastern boundary of an unnamed road reserve being a prolongation of Louth Park Road; then generally south westerly and generally south easterly along the boundaries of those roads to the north western boundary of Buchanan Road; then generally south westerly, generally westerly, again generally south westerly and generally southerly along of that boundary, an unnamed road, George Booth Drive, Richmond Vale Road, Maitland Road and Leggetts Drive (Freemans Drive) to the northeast corner of Lot 21 on DP811883; then generally westerly along the northern boundary of that lot, Lot 7002 on DP93611, Gills Lane and unnamed road to the south western corner of Lot 820 on DP1165469; then southerly, westerly and generally southerly along the western boundaries of Lot 99 on DP755244, Lot 109 on DP755244, Heaton State Forest and Lot 53 on DP755244 to Wallis Creek; then generally southerly and generally south westerly along the centreline of that creek to Longitude 151.427251° East; then southerly to the southwest corner of Lot 115 on DP755244 to intersect the southern boundary of the Hunter River

catchment; then generally south westerly along that southern boundary to Longitude 151.348681° East; then northwest to the headwaters of Watagan Creek at Longitude 151.348593° East, Latitude 33.043104° South; then generally westerly along the centreline of Watagan Creek to Wollombi Brook; then generally south easterly along the centreline of that brook to Fernances Creek; then generally south westerly along the centreline of that creek to its headwaters at Longitude 151.098910° East, Latitude 33.074560° South; then southerly to a point on the southern boundary of Hunter River catchment at Longitude 151.097259° East; then generally westerly and generally northerly along that catchment boundary to Latitude 33.076127° South; then generally westerly and generally northerly to a point again on the southern boundary of Hunter River catchment Latitude 32.922318° South, passing through the following coordinated points.

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150.834462	32.962365
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150.574377	32.161718
150.598202	32.135240
150.652910	32.125544
150.668794	32.065873
150.680265	32.049837
150.722178	32.032116
150.737178	31.985805
150.818359	31.933518
150.863959	31.908708
150.884154	31.886843
150.895066	31.860965
150.900115	31.860826
150.903372	31.860411
150.925196	31.840622

Exclusions:

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- NSD1169/12 - Wonnarua Traditional Custodians (NC2012/005) as accepted for registration 14/09/2012.
- NSD788/13 – Wonnarua Traditional Custodians (NC2013/003) as accepted for registration 13/05/2013.
- NSD781/13 - Plains Clans of the Wonnarua People (NC2013/004) as accepted for registration 13/05/2013.

Note**Data Reference and source**

- Application boundary data compiled by National Native Title Tribunal based on information sourced from Tocomwall.
- Cadastre data sourced from from Public Sector Mapping Agency (November 2010).
- Rivers / Creeks and Roads based on casement data, where available; else Topographic image data © Commonwealth of Australia and is used under licence from Geoscience Australia, 2008, SIX maps by NSW Land & Property Information and the NSW Natural Resource Atlas.
- Catchment boundaries sourced from the NSW Natural Resource Atlas.

Reference datum

Geographical coordinates have been provided by the NNTT Geospatial Services and are referenced to the Geocentric Datum of Australia 1994 (GDA94), in decimal degrees and are based on the spatial reference data acquired from the various custodians at the time

Use of Coordinates

Where coordinates are used within the description to represent cadastral or topographical boundaries or the intersection with such, they are intended as a guide only. As an outcome to the custodians of cadastral and topographic data continuously recalculating the geographic position of their data based on improved survey and data maintenance procedures, it is not possible to accurately define such a position other than by detailed ground survey.

Prepared by Geospatial Services, National Native Title Tribunal (9 July 2014)

ATTACHMENT B2 – “ANY AREAS WITHIN THOSE BOUNDARIES THAT ARE NOT COVERED BY THE APPLICATION”

- (1) The external boundaries of the area covered by the application are described in Attachment B1.
- (2) Subject to (4) and (5) below, the area covered by the application excludes any land or waters covered by:
 - (a) a scheduled interest;
 - (b) a freehold estate;
 - (c) a commercial lease that is neither an agricultural lease nor a pastoral lease;
 - (d) an exclusive agricultural lease or a exclusive pastoral lease;
 - (e) a residential lease;
 - (f) a community purposes lease;
 - (g) a lease dissected from a mining lease as referred to in s238(2)(vii); or
 - (h) any lease (other than a mining lease) that confers a right of exclusive possession over particular land or waterswhich was validly vested or granted on or before 23 December 1996.
- (3) Subject to (4) and (5) below, the area covered by the application also excludes any area
 - (a) covered by the valid construction or establishment of any public work, where the construction or establishment of the public work commenced on or before 23 December 1996.
 - (b) in relation to which native title rights and interests have otherwise been wholly extinguished.
- (4) Where the act specified in (2) or (3) falls within the provisions of any of sections 23B(9), 23B(9A), 23B(9B), 23B(9C) or 23B(10) of the *Native Title Act 1993* (Cth), then the area covered by the act is not excluded from this application.
- (5) Notwithstanding (2) and (3), the area covered by the application includes any area to which the non-extinguishment principle as defined in section 238 of the *Native Title Act 1993* applies, including any area to which sections 47, 47A or 47B of the *Native Title Act 1993* (Cth) applies.
- (6) The application area specifically excludes the NSD1093/12, NSD1169/12, NSD788/13 and NSD781/13 native title determination application areas.

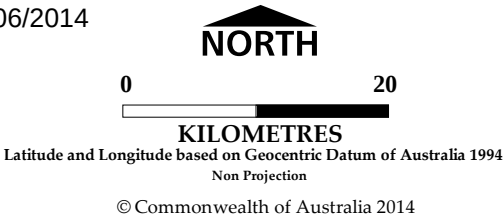
Note – the terms in this Attachment B2 have the same meaning as they do in the *Native Title Act 1993* (Cth)

NSD1680/2013 Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People (NC2013/006)

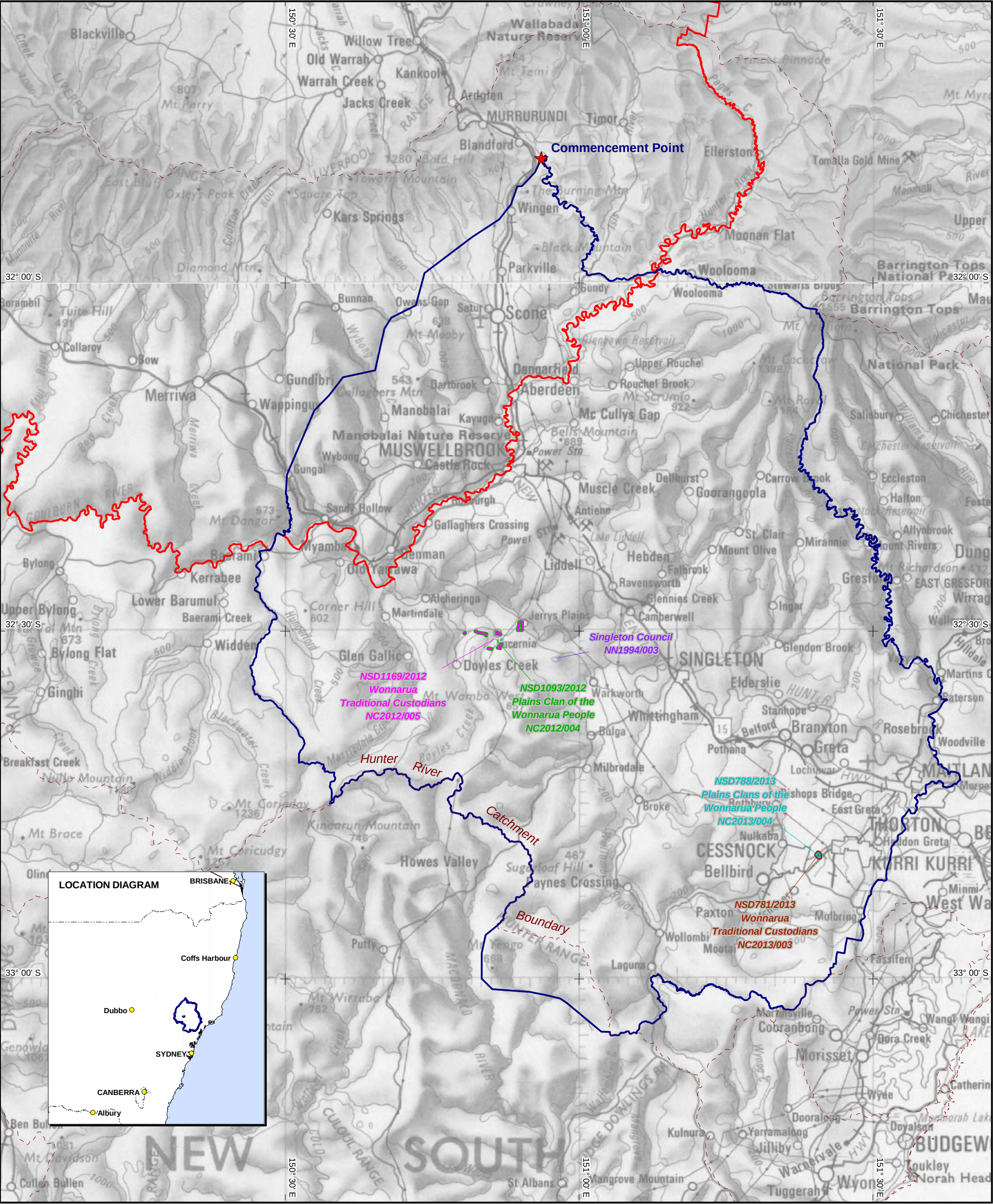


- NSD1680/2013 Scott Franks & Anor on behalf of the Plains Clans of the Wonnarua People (NC2013/006) - Amended
- Water Catchment boundaries sourced from the NSW Natural Resource Atlas.

NOTE: To determine areas subject to claim within the external boundary, reference to the application description is necessary.
Application boundary data compiled by the NNTT.
Topographic image data is © Commonwealth of Australia and is used under licence from Geoscience Australia 2008
NOTE: Topographic images should be used as a guide only.
Map created by: Geospatial Services, National Native Title Tribunal (08/04/2014)



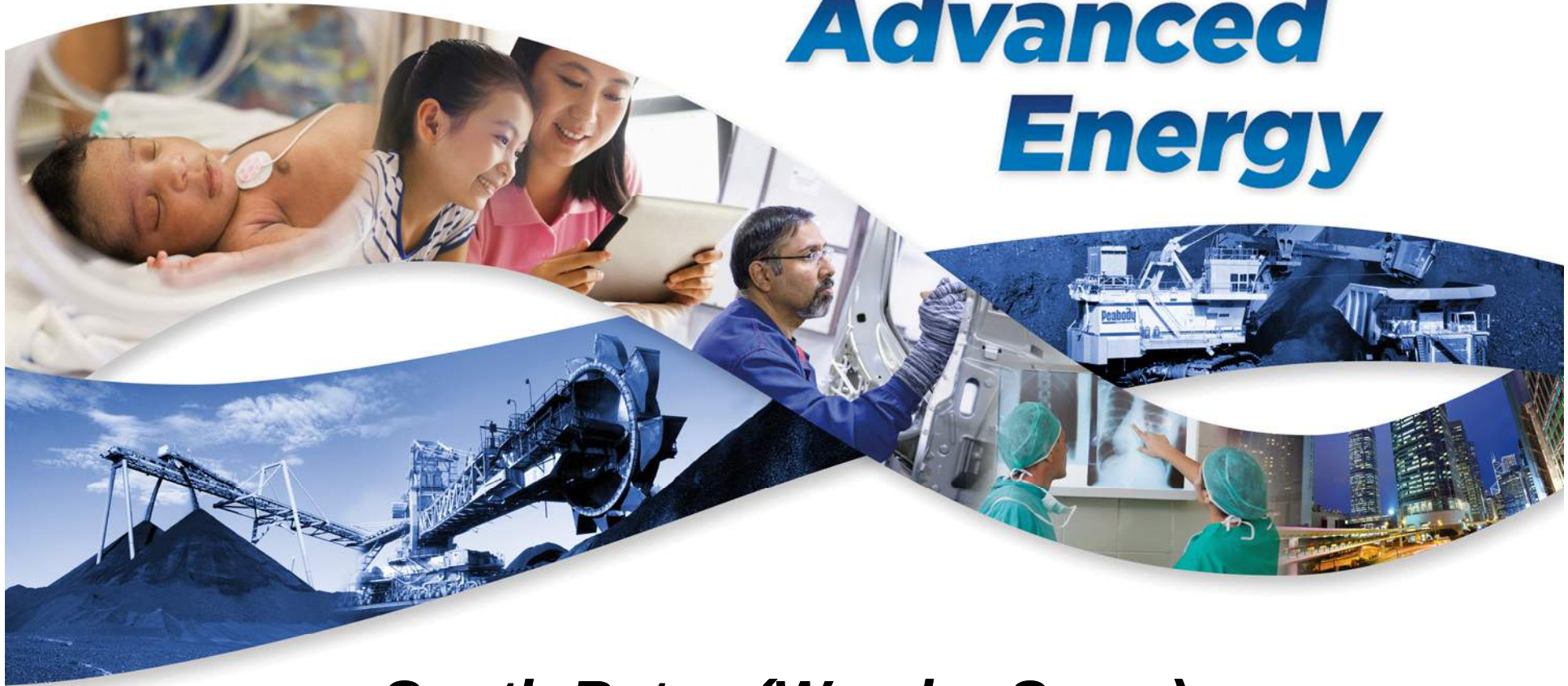
The Registrar, the National Native Title Tribunal and its staff, members and agents and the Commonwealth (collectively the Commonwealth) accept no liability and give no undertakings guarantees or warranties concerning the accuracy, completeness or fitness for purpose of the information provided. In return for you receiving this information you agree to release and indemnify the Commonwealth and third party data suppliers in respect of all claims, expenses, losses, damages and costs arising directly or indirectly from your use of the information and the use of the information you obtained by any third party.



Appendix 4

Aboriginal Consultation – Information Session PowerPoint Presentation

Advanced Energy



South Bates (Wambo Seam) Underground Mine Modification Information Session

May 2015

Wambo Coal Mine



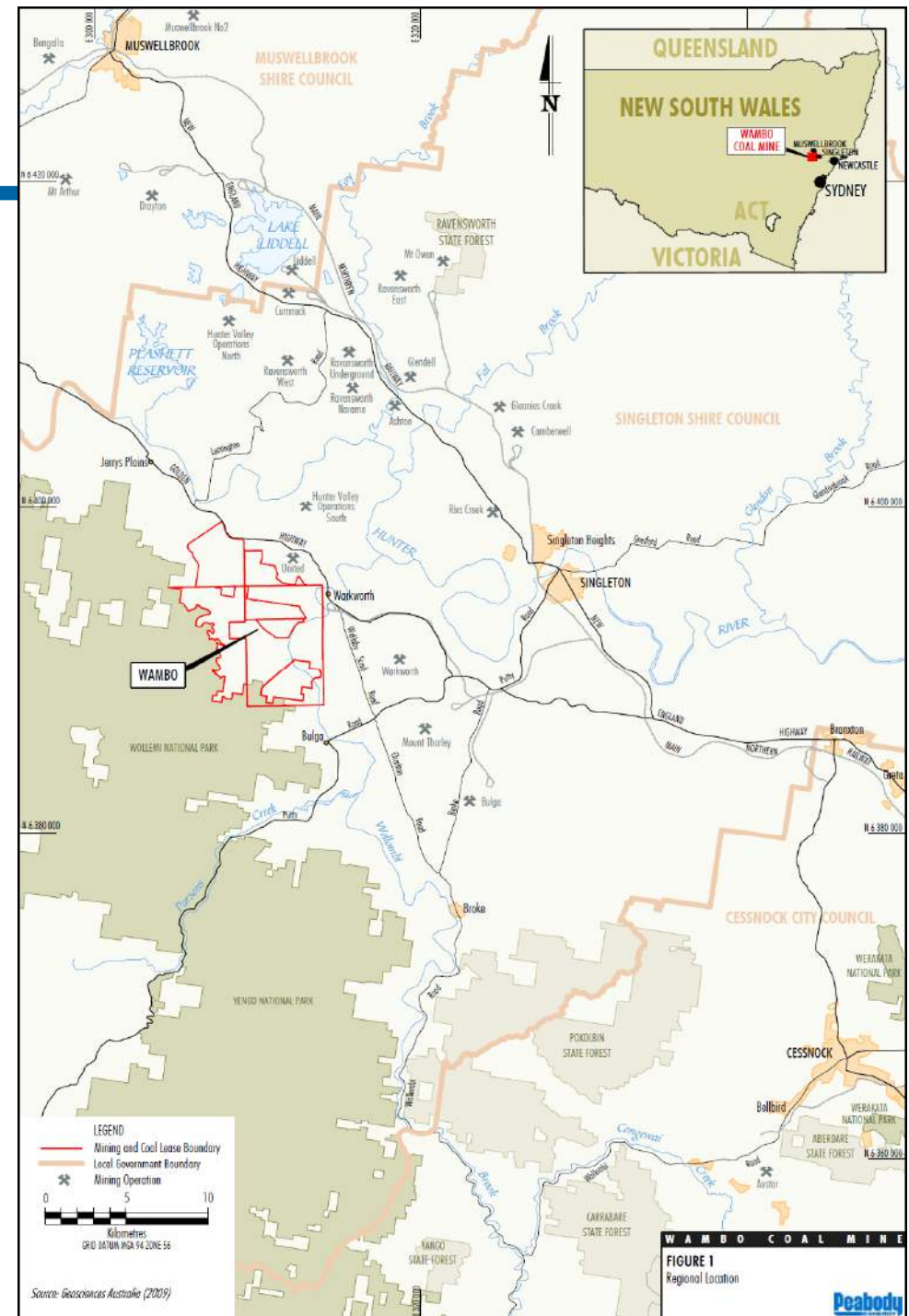
Wambo Coal Mine



- Wambo Coal Mine is an open cut and underground coal mining operation owned and operated by Wambo Coal Pty Limited (WCPL), a subsidiary of Peabody Energy Australia Pty Limited.
- Open cut and underground mine operations have been conducted at Wambo since mining operations commenced in 1969.
- Development Consent (305-7-2003) was granted in 2004 following full EIS process.
- Currently, the Wambo Coal Mine workforce consists of approximately 750 employees and contractors.

Regional Location

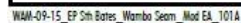
- WCPL lies approximately 15 km west of Singleton.
- Wambo Coal Mine has continuously operated on the site since 1969.
- WCPL rails export Thermal and PCI coal through the Port of Newcastle.



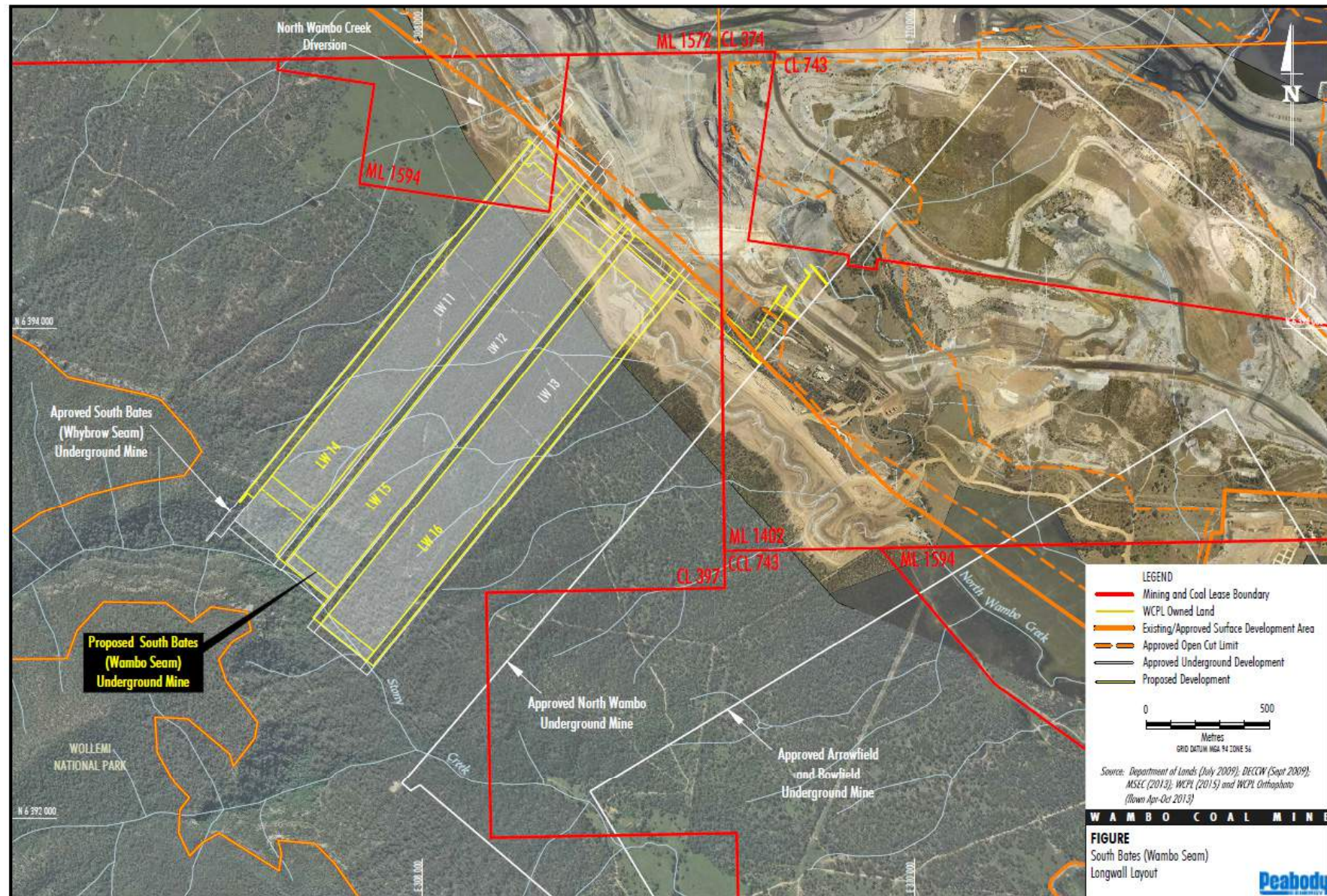
The Modification



- WCPL has identified coal reserves in the Wambo Seam, directly underneath the existing approved South Bates (Whybrow Seam) Underground Mine.
- This proposed extension to Wambo Coal Mine is referred to as the **South Bates (Wambo Seam) Underground Mine Modification** (the Modification).
- Proposed Modification under Section 75W of the EP&A Act.
- The Modification would include the addition of three longwall panels (Longwalls 14, 15 and 16) in the Wambo Seam.



Proposed South Bates (Wambo Seam) Underground Mine Layout



Aboriginal Cultural Heritage Impact Assessment Process



Gillian Goode (RPS Australia Asia Pacific) – Project Archaeologist.

- Aboriginal Cultural Heritage Impact Assessment (CHIA) – relies on information from Aboriginal stakeholders.
- Management of Sensitive Information.
- Archaeological Assessment including site inspection/survey.
- Consultation on survey findings and appropriate management.
- Draft Aboriginal CHIA.
- Stakeholder comments on the draft Aboriginal CHIA.
- Finalise CHIA.
- Consultation with Aboriginal stakeholders throughout the process.

Management of Sensitive Information



In the event that an Aboriginal stakeholder has sensitive or restricted public access information:

- WCPL would make note of and manage the material in a manner agreed with the Aboriginal people/ person at the time of the information being provided.
- A specific sensitive cultural information management protocol can be developed for this if required.

Archaeological Assessment

The Archaeological Assessment will include but not be limited to the following:

- Searches of AHIMS, National Heritage List and Commonwealth Heritage List.
- Review of relevant reports and publications, including previous archaeological investigations and management reports.
- Site inspection/ ground survey.
- Significance and impact assessment.
- Preparation of an Aboriginal CHIA report.

Aboriginal Cultural Heritage Assessment Report



The draft Aboriginal CHIA will be provided to Aboriginal stakeholders for review and feedback and will include:

- Details of the objects, places and values identified and an assessment of potential impacts.
- Records of the Aboriginal stakeholder consultation conducted and how any comments received were considered.
- Proposed management and mitigation recommendations.

Roles of Participants

- The OEH Consultation Guideline *Aboriginal Cultural Heritage Consultation Requirements For Proponents 2010* (DECCW, 2010) indicates:
 - *“The interests and obligations of Aboriginal people relate to the protection of Aboriginal cultural heritage.”*
 - *“It is only Aboriginal people who can determine who is accepted by their community as being authorised to speak for Country and its associated cultural heritage.”*
- In addition the guideline states Aboriginal people should:
 - *“Have an awareness and understanding of the commercial environment and constraints in which proponents operate.”*
 - *“Develop and display an awareness and understanding of the opportunities to input into regulatory processes to contribute to decision making by proponents and government authorities.”*

Roles of Participants (Continued)

- The OEH Consultation Guideline Aboriginal Cultural Heritage Consultation Requirements For Proponents 2010 (DECCW, 2010) indicates that Proponents should:
 - *“Bring the registered Aboriginal parties or their nominated representatives together and be responsible for ensuring appropriate administration and management of the consultation process.”*
 - *“Consider the cultural perspectives, views, knowledge and advice of the registered Aboriginal parties involved in the consultation process in assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s).”*
 - *“Provide evidence to DECCW [now known as the OEH] of consultation by including information relevant to the cultural perspectives, views, knowledge and advice provided by the registered Aboriginal parties.”*
 - *“Accurately record and clearly articulate all consultation findings in the final cultural heritage assessment report.”*
 - *“Provide copies of their cultural heritage assessment report to the registered Aboriginal parties who have been consulted.”*

Comments on the Proposed Methodology

In accordance with the OEH Consultation Guideline *Aboriginal Cultural Heritage Consultation Requirements For Proponents 2010* (DECCW, 2010):

- WCPL has provided a Proposed Methodology for your review and feedback.
- Additional feedback on the Proposed Methodology is welcomed – preferably in writing.
- **Any feedback with respect to the Proposed Methodology is to be provided by 5.00 pm Wednesday 27 May 2015.**

Timing for Next Steps

- Comments on Proposed Methodology – due Wednesday 27 May 2015.
- Field survey –Thursday 28 May and Friday 29 May 2015.
 - Involvement in field survey based on existing Wambo fieldwork roster.
- Draft Aboriginal CHIA report distributed to Aboriginal stakeholders for review and comment – June 2015.
- Comments on draft Aboriginal CHIA report – due July/August 2015 (minimum 28 day review period for draft Aboriginal CHIA).
- A copy of the final Aboriginal CHIA (including a consideration of comments received) will be provided to Aboriginal stakeholders.

THANK YOU

Appendix 5

AHIMS Search

RPS Australia East Pty Ltd -Hamilton

Date: 08 April 2015

Accounts Payable Fortitude Valley PO Box 237
Brisbane Queensland 4006

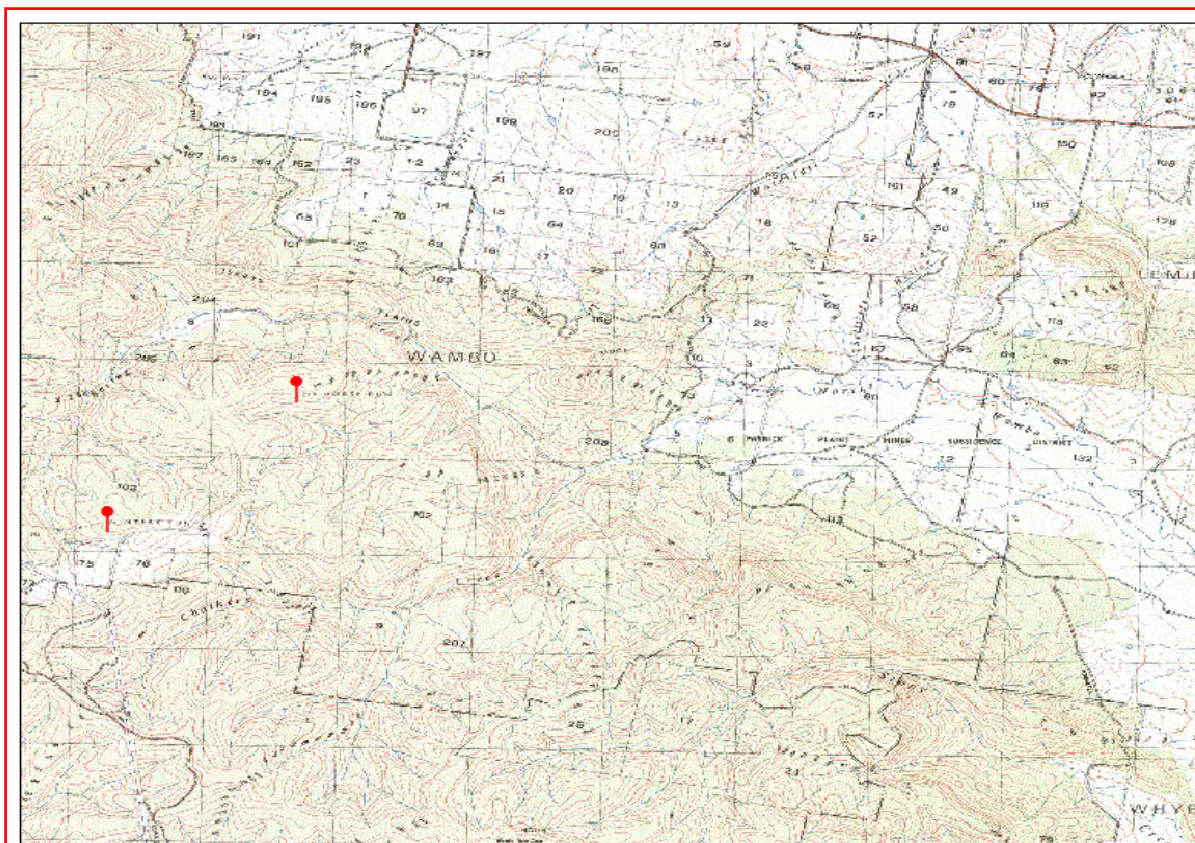
Attention: Philippa Sokol

Email: philippa.sokol@rpsgroup.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6393640 - 6397306 with a Buffer of 0 meters, conducted by Philippa Sokol on 08 April 2015.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

102	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0409	Wambo site 157	AGD	56	309122	6394328	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0410	Wambo site 160	AGD	56	309090	6395030	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0411	Wambo site 161	AGD	56	309170	6395140	Open site	Valid	Artefact : 6		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0412	Wambo site 162	AGD	56	309068	6395489	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0413	Wambo site 163	AGD	56	309068	6395614	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0414	Wambo site 164	AGD	56	308931	6395412	Open site	Valid	Artefact : 3		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0415	Wambo site 165	AGD	56	308867	6395207	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0442	Wambo site 235	AGD	56	307119	6395821	Open site	Valid	Artefact : 5		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0443	Wambo site 234	AGD	56	307171	6395802	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0416	Wambo site 167	AGD	56	308641	6395268	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0417	Wambo site 168	AGD	56	308473	6395529	Open site	Valid	Artefact : 27		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0418	Wambo site 169	AGD	56	308380	6395450	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0419	Wambo site 170	AGD	56	308363	6395902	Open site	Valid	Artefact : 6		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0420	Wambo site 171	AGD	56	308588	6396022	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0421	Wambo site 172	AGD	56	308977	6396300	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0422	Wambo site 173	AGD	56	309076	6396222	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0423	Wambo site 174	AGD	56	309001	6396229	Open site	Valid	Artefact : -		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6393640 - 6397306 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 102

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0424	Wambo site 175	AGD	56	309308	6396233	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0426	Wambo site 238	AGD	56	306963	6396134	Open site	Valid	Artefact : 12		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0427	Wambo site 237	AGD	56	307050	6396050	Open site	Valid	Artefact : 11		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0428	Wambo site 236	AGD	56	307200	6396100	Open site	Valid	Artefact : 6		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0429	Wambo site 189	AGD	56	309251	6396878	Open site	Valid	Artefact : 3		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0430	Wambo site 188	AGD	56	309264	6396897	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0432	Wambo site 187	AGD	56	309328	6396895	Open site	Valid	Artefact : -		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0433	Wambo site 186	AGD	56	309375	6396915	Open site	Valid	Artefact : 7		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0368	Wambo site 224	AGD	56	307700	6396530	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Helen Brayshaw				<u>Permits</u>	2222	
37-5-0370	Wambo site 257	AGD	56	307616	6397116	Open site	Valid	Artefact : 4		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	
37-5-0371	Wambo site 252	AGD	56	307292	6397099	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	
37-5-0339	Wambo site 219	AGD	56	308357	6396692	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0340	Wambo site 218	AGD	56	308380	6396500	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0341	Wambo site 217	AGD	56	308590	6396390	Open site	Valid	Artefact : 6		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0372	Wambo site 251	AGD	56	307529	6396890	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	
37-5-0373	Wambo site 250	AGD	56	307105	6396754	Open site	Valid	Artefact : 6		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	
37-5-0374	Wambo site 249	AGD	56	307150	6396670	Open site	Valid	Artefact : 11		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6393640 - 6397306 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 102

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0375	Wambo site 245	AGD	56	306830	6396563	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>	K Calley					<u>Permits</u>	2222	
37-5-0376	Wambo site 246	AGD	56	306629	6396676	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>	K Calley					<u>Permits</u>	2222	
37-5-0378	Wambo site 244	AGD	56	306874	6396530	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>	K Calley					<u>Permits</u>	2222	
37-5-0469	Wambo site 192	AGD	56	308834	6396992	Open site	Valid	Artefact : 3		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Elizabeth White					<u>Permits</u>	2222	
37-5-0470	Wambo site 191	AGD	56	308925	6396833	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Elizabeth White					<u>Permits</u>	2222	
37-5-0379	Wambo site 242	AGD	56	306548	6396358	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>	K Calley					<u>Permits</u>	2222	
37-5-0381	Wambo site 243	AGD	56	306890	6396337	Open site	Valid	Artefact : 3		102590
	<u>Contact</u>	<u>Recorders</u>	K Calley					<u>Permits</u>	2222	
37-5-0337	Wambo site 220	AGD	56	308228	6396739	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>	2222	
37-5-0349	Wambo site 190	AGD	56	309105	6396901	Open site	Valid	Artefact : 4		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>	2222	
37-5-0353	Wambo site 230	AGD	56	307455	6394990	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>		
37-5-0354	Wambo site 231	AGD	56	307348	6395172	Open site	Valid	Artefact : 5		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>		
37-5-0355	Wambo site 232	AGD	56	307395	6395461	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>	2222	
37-5-0393	Wambo site 145	AGD	56	308876	6393732	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Elizabeth White					<u>Permits</u>	2222	
37-5-0394	Wambo site 146	AGD	56	308754	6393850	Open site	Valid	Artefact : 1		99288,102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Elizabeth White					<u>Permits</u>	2222	
37-5-0395	Wambo site 147	AGD	56	308365	6393870	Open site	Valid	Artefact : 5		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>	2222	
37-5-0397	Wambo site 148	AGD	56	308418	6394050	Open site	Valid	Artefact : 9		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>	2222	
37-5-0357	Wambo site 233	AGD	56	307329	6395845	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund					<u>Permits</u>	2222	

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6393640 - 6397306 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 102

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0358	Wambo site 239	AGD	56	306770	6395950	Open site	Valid	Artefact : 148		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0359	Wambo site 240	AGD	56	306468	6396030	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0360	Wambo site 241	AGD	56	306331	6396087	Open site	Valid	Artefact : 8		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0361	Wambo site 225	AGD	56	307559	6396271	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0399	Wambo site 149	AGD	56	308375	6394266	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0401	Wambo site 150	AGD	56	308276	6394309	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0403	Wambo site 151	AGD	56	308663	6394488	Open site	Valid	Artefact : 1		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0453	Wambo site 222	AGD	56	307718	6396936	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0455	Wambo site 223	AGD	56	307691	6396890	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0363	Wambo site 226	AGD	56	307757	6396136	Open site	Valid	Artefact : 7		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0364	Wambo site 227	AGD	56	307704	6395978	Open site	Valid	Artefact : 60		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0365	Wambo site 228	AGD	56	307494	6396003	Open site	Valid	Artefact : 3		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0366	Wambo site 229	AGD	56	307822	6395252	Open site	Valid	Artefact : 8		102590
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0463	Wambo site 248	AGD	56	306423	6396972	Open site	Valid	Artefact : 45		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	
37-5-0464	Wambo site 247	AGD	56	306436	6396988	Open site	Valid	Artefact : 45		
	<u>Contact</u>	<u>Recorders</u>		K Calley				<u>Permits</u>	2222	
37-5-0468	Wambo site 193	AGD	56	308841	6397093	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0578	Wambo site 324 St 1	GDA	56	307124	6395449	Open site	Valid	Modified Tree (Carved or Scarred) :		102567,102590
								-		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0585	Toorale-Nulty Fence 10	GDA	56	307825	6393822	Open site	Deleted	Artefact : -		102567,102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0590	WAMBO SITE 296	GDA	56	307825	6393822	Open site	Valid	Grinding Groove : 1		102567,102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0591	WAMBO SITE 297	GDA	56	307758	6393803	Open site	Valid	Artefact : 1		102567,102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0592	WAMBO SITE 298	GDA	56	305238	6396955	Open site	Valid	Artefact : 15		102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0602	WAMBO SITE 308	GDA	56	305330	6395133	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0603	WAMBO SITE 309	GDA	56	305347	6395196	Open site	Valid	Artefact : 2		102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0604	WAMBO SITE 310	GDA	56	305240	6395159	Open site	Valid	Artefact : 35		102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0605	WAMBO SITE 311	GDA	56	306382	6396192	Open site	Valid	Artefact : 24		102590
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0664	Wambo Site 321	GDA	56	306097	6396146	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0665	Wambo Site 322	GDA	56	304725	6395198	Open site	Valid	Artefact : -, Habitation Structure :-		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0659	Wambo Site 317	GDA	56	305932	6396108	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0661	Wambo Site 318	GDA	56	305941	6396507	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0662	Wambo Site 319	GDA	56	305936	6396357	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0663	Wambo Site 320	GDA	56	306054	6396149	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
37-5-0671	Wambo Site 370	GDA	56	308507	6396552	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0030	Wambo site 3 Wambo Estate	AGD	56	309000	6394800	Open site	Valid	Artefact : -	Open Camp Site	318,1971,1972, 102590
	<u>Contact</u>	<u>Recorders</u>	Len Dyll					<u>Permits</u>	2222	
37-5-0031	Wambo Estate NW 2	AGD	56	309030	6394900	Open site	Valid	Grinding Groove : -, Artefact : -	Axe Grinding Groove,Open Camp Site	318,1971,1972, 102590
	<u>Contact</u>	<u>Recorders</u>	Elizabeth Rich					<u>Permits</u>	2222	
37-5-0035	Horse Run;Jerrys Plains Ridge;	AGD	56	302426	6396665	Open site	Valid	Artefact : -	Open Camp Site	318,102590
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
37-5-0036	Horse Run;Jerrys Plains Ridge;	AGD	56	300687	6396724	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
37-5-0037	Horse Run;Jerrys Plains Ridge;	AGD	56	302262	6395656	Open site	Valid	Artefact : -	Open Camp Site	102590
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
37-5-0038	Horse Run;Jerrys Plains Ridge;	AGD	56	302974	6396676	Open site	Valid	Artefact : -	Open Camp Site	102590
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
37-5-0039	Horse Run;Jerrys Plain Ridge;	AGD	56	303528	6396412	Open site	Valid	Artefact : -	Open Camp Site	102590
	<u>Contact</u>	<u>Recorders</u>	Len Dyll					<u>Permits</u>		
37-5-0549	Wambo PAD H	GDA	56	309044	6393641	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Gillian Goode					<u>Permits</u>		
37-5-0550	Wambo PAD I	GDA	56	309124	6393711	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Gillian Goode					<u>Permits</u>		
37-5-0551	Wambo PAD J	GDA	56	308034	6394841	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Gillian Goode					<u>Permits</u>		
37-5-0552	Wambo PAD K	GDA	56	308004	6394691	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Gillian Goode					<u>Permits</u>		
37-5-0553	Wambo PAD L	GDA	56	307504	6395091	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	<u>Contact</u>	<u>Recorders</u>	Ms.Gillian Goode					<u>Permits</u>		

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6393640 - 6397306 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 102

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 1B

Client Service ID : 168421

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0554	Wambo PAD M	GDA	56	308304	6394991	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	Contact							Permits		
37-5-0555	Wambo PAD N	GDA	56	308554	6395691	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	Contact							Permits		
37-5-0556	Wambo PAD O	GDA	56	308404	6396591	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	Contact							Permits		
37-5-0557	Wambo PAD P	GDA	56	308204	6396791	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	Contact							Permits		
37-5-0558	Wambo PAD Q	GDA	56	308024	6396261	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	Contact							Permits		
37-5-0559	Wambo PAD R	GDA	56	306904	6396341	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102590
	Contact							Permits		
37-5-0654	Wambo Site 380	GDA	56	303978	6397212	Open site	Valid	Artefact : -		
	Contact							Permits		

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6393640 - 6397306 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 102

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RPS Australia East Pty Ltd -Hamilton

Date: 08 April 2015

Accounts Payable Fortitude Valley PO Box 237

Brisbane Queensland 4006

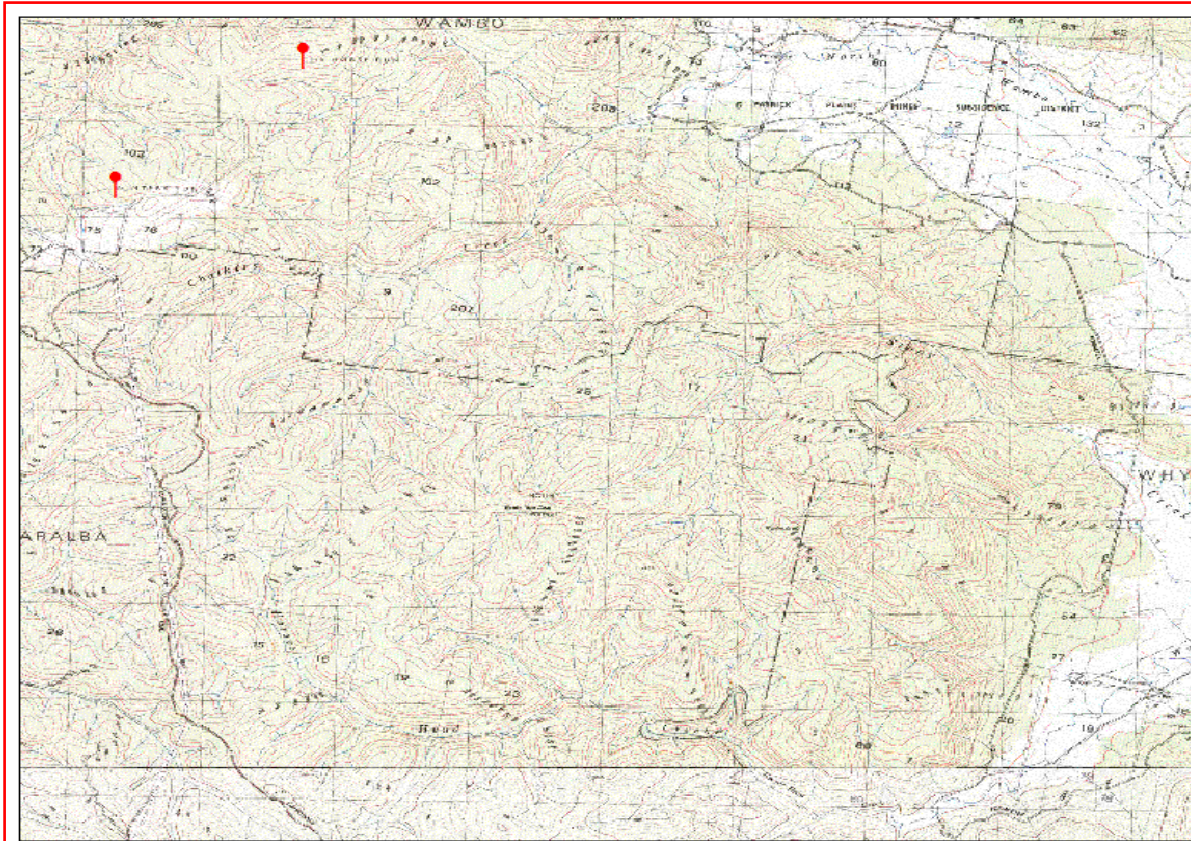
Attention: Philippa Sokol

Email: philippa.sokol@rpsgroup.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6390500 - 6393640 with a Buffer of 0 meters, conducted by Philippa Sokol on 08 April 2015.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

44	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 3a1

Client Service ID : 168425

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0436	Wambo site 215	AGD	56	308230	6391760	Open site	Valid	Artefact : 3		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0315	Wambo site 72	AGD	56	309368	6391615	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0316	Wambo site 73	AGD	56	309273	6391464	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0317	Wambo site 81	AGD	56	308989	6391928	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0319	Wambo site 82	AGD	56	308895	6391996	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0320	Wambo site 83	AGD	56	308645	6392196	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0321	Wambo site 84	AGD	56	308607	6392224	Open site	Valid	Artefact : 2		
	<u>Contact</u>	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>	2222	
37-5-0367	Wambo site 137	AGD	56	308740	6392965	Open site	Valid	Artefact : 3		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0369	Wambo site 138	AGD	56	308935	6393136	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0344	Wambo site 132	AGD	56	309304	6392849	Open site	Valid	Artefact : 10		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0347	Wambo site 133	AGD	56	309275	6392884	Open site	Valid	Artefact : 11		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0377	Wambo site 139	AGD	56	308820	6393191	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0380	Wambo site 140	AGD	56	308703	6393134	Open site	Valid	Artefact : 9		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0384	Wambo site 141	AGD	56	308680	6393046	Open site	Valid	Artefact : 3		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0385	Wambo site 142	AGD	56	308631	6393055	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0386	Wambo site 143	AGD	56	308571	6393131	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	
37-5-0389	Wambo site 144	AGD	56	308376	6392921	Open site	Valid	Artefact : 3		
	<u>Contact</u>	<u>Recorders</u>		Ms.Laila Haglund				<u>Permits</u>	2222	

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6390500 - 6393640 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 44

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 3a1

Client Service ID : 168425

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0351	Wambo site 134	AGD	56	309223	6392896	Open site	Valid	Artefact : 2		
	Contact	Recorders		Ms.Laila Haglund				Permits	2222	
37-5-0356	Wambo site 135	AGD	56	309109	6392788	Open site	Valid	Artefact : 4		
	Contact	Recorders		Ms.Laila Haglund				Permits	2222	
37-5-0362	Wambo site 136	AGD	56	309130	6392919	Open site	Valid	Artefact : 1		
	Contact	Recorders		Ms.Laila Haglund				Permits	2222	
37-5-0483	Wambo site 96	GDA	56	309466	6392189	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders		Ms.Elizabeth White				Permits		
37-5-0655	Wambo Site 345	GDA	56	309154	6391103	Open site	Valid	Artefact : -		
	Contact	Recorders		Ms.Gillian Goode,RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0679	FW-AS1	GDA	56	309373	6390566	Open site	Deleted	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0674	FW AS1	GDA	56	309373	6390566	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0670	Wambo Site 339	GDA	56	308911	6391430	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0675	FW AS2	GDA	56	309249	6390534	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0676	FW AS3	GDA	56	309119	6390578	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0677	FW IF1	GDA	56	308984	6390820	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0678	FW IF2	GDA	56	309055	6390722	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0672	Wambo Site 375	GDA	56	308630	6392812	Open site	Valid	Artefact : -		
	Contact	Recorders		RPS Australia East Pty Ltd -Hamilton				Permits		
37-5-0189	SC 1;	AGD	56	308650	6391800	Open site	Valid	Artefact : -	Open Camp Site	1971,1972
	Contact	Recorders		Elizabeth Rich				Permits	2222	
37-5-0190	SC 2;	AGD	56	308090	6392000	Open site	Valid	Artefact : -	Open Camp Site	1971,1972
	Contact	Recorders		Elizabeth Rich				Permits	2222	
37-5-0191	SC 3;	AGD	56	308700	6391600	Open site	Valid	Artefact : -	Open Camp Site	1971,1972
	Contact	Recorders		Elizabeth Rich				Permits	2222	
37-5-0474	Wambo sites 86 & 87	GDA	56	308313	6392335	Open site	Valid	Artefact : 2		
	Contact T Russell	Recorders		Ms.Elizabeth White				Permits		

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6390500 - 6393640 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 44

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AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : PR126088-1 Poly 3a1

Client Service ID : 168425

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-5-0475	Wambo site 88	GDA	56	308085	6392470	Open site	Valid	Artefact : 3		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0476	Wambo site 89	GDA	56	307998	6392516	Open site	Valid	Artefact : 18		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0477	Wambo site 90	GDA	56	308012	6392612	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0478	Wambo site 91	GDA	56	309063	6392424	Open site	Valid	Artefact : 2		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0479	Wambo site 92	GDA	56	309036	6392242	Open site	Valid	Artefact : 7		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0480	Wambo site 93	GDA	56	309159	6392241	Open site	Valid	Artefact : 3		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0481	Wambo site 94	GDA	56	309306	6392160	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0482	Wambo site 95	GDA	56	309320	6392177	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0491	Wambo site 85	GDA	56	308405	6392293	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>		Ms.Elizabeth White				<u>Permits</u>		
37-5-0548	Wambo PAD G	GDA	56	309104	6393291	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>		Ms.Gillian Goode				<u>Permits</u>		

Report generated by AHIMS Web Service on 08/04/2015 for Philippa Sokol for the following area at Datum :GDA, Zone : 56, Eastings : 300709 - 309498, Northings : 6390500 - 6393640 with a Buffer of 0 meters. Additional Info : Background info. Number of Aboriginal sites and Aboriginal objects found is 44

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Appendix 6

Site Cards

Open Site

Landform

Landform Unit

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek

☐	Tidal Flat	☐	Upper slope	☐	Stream bank
☐	Cliff	☐	Plain	☒	Stream channel
☐	Crest	☐	Ridge	☐	Swamp
☐	Flat	☐	Tor	☐	Terrace
☐	Lower slope	☐	Valley flat	☐	Terrace flat
☒	Mid slope	☐	Levy		

0 degrees

Land use

☐ Closed forest

☐ Grasslands

☐ Isolated clumps of trees

☒ Open forest

☐ Open woodland

☐ Scrub

☐ Woodland

☐ Cleared

☐ Revegetated

☐ N/A

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☐ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

Water

Distance to permanent water source	1750	metres
Distance to temporary water source	0	metres
Name of nearest permanent water source	North Wambo Creek	
Name of nearest temporary water	Unnamed tributary	

Directions for Relocation
See attached map and DGPS co-ordinates.

Current Land Tenure

☐ Public National Park / other Government
☐ Private Dept.

Primary report **I.D.** (I.D. Office Use only)

[illegible]

Site Location Map



General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Open Site

Site Orientation

- ☒ N-S
☐ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☐ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☒ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 10 Total length of visible site
 3 Average width of visible site
 30sqm Estimated area of visible site
 30m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Steeply sloping creek line with grinding grooves on sandstone boulder below sandstone shelf. Single faintly defined groove.

[illegible]

☐	A4 location map
☐	B/W photographs
☐	Colour photographs
☐	Slides
☐	Aerial photographs
☐	Site plans, drawings
☐	Recording tables
☐	Other
☐	Feature inserts-No.

This image shows a blank sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Open Site

Landform

Landform Unit

☐ Tidal Flat

☐ Cliff

☐ Crest

☐ Flat

☐ Lower slope

☒ Mid slope

- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy

- ☐ Stream bank
- ☒ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

18 degrees

Land use

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☐ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

Water

Distance to permanent water source metres

Distance to temporary water source	0	metres
------------------------------------	---	--------

Name of nearest permanent water source	North Wambo Creek
--	-------------------

Name of nearest temporary water	Unnamed tributary
---------------------------------	-------------------

Directions for Relocation
Refer attached map and DGPS co-ordinates.

Current Land Tenure

☐ Public National Park / other Government Dept.

☒ PrivateNational Park / other Government
Dept.

Dept. _____

Primary report

I.D. (I.D. Office Use only)

(I.D. Office Use only)

Site Location Map

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Open Site

Site Orientation

- ☐ N-S
☒ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 10 Total length of visible site
 3 Average width of visible site
 30sqm Estimated area of visible site
 30m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Grey silcrete flake on sandstone outcrop in bed of creek; up slope from grinding groove.

[illegible][illegible]

Site I.D.

Site Name

Wambo Site 297

First recorded date

15/12/2009

Importance

Cannot be presently determined

No. of instances

1

Recorded by

G.Goode

Yes No

Stone artefacts only

Yes

Artefacts collected

No

Permit issued

No

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

0-9%

Feature Context & Condition

Scatter No.

Easting

3 0 7 7 5 8

Northing

6 3 9 3 8 0 3

Density

Dimensions

Yes No

(Artefact count per square metre)

11

Length (m)

1

Width (m)

Depth (m)

In situ

No

Stratified

No

Feature Condition

General Condition

Recommended Action

☐

Very good

☒

Weathered

☐

Boardwalk

☐

Revegetation

☒

Good

☐

Vehicle damage

☐

Fencing

☐

Signage

☐

Poor

☒

Surface water wash

☐

Closure to public

☐

Soil erosion control

☐

Fire damage

☒

Continued inspection

☐

Track closure/re-routing

☒

Erosion

☐

Fire hazard reduction

☐

Additional recording

☐

Stock damage

☐

Expert assessment

☒

Exposed archaeological material

☐

Meeting with land manager

Feature Plan (Indicate scale, location of instances)

NW

N

NE

W

E

SW

S

SE



Feature Environment

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

Mountainous

Land form

Creek Line

Land form unit

Mid

Slope

Open Forest

Vegetation

Private

Land use

Water

Distance to permanent water source

1,750

metres

Distance to temporary water source

0

metres

Name of nearest permanent water source

North Wambo Creek

Name of nearest temporary water

unnamed tributary



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting

Northing

AGD/GDA

Mapsheet

Zone

Location Method

Differential GPS

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

Office Use Only

Client on system

Client on system

Client on system

Open Site

Landform

Slope
 degrees

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek

- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

☐ Closed forest

☐ Grasslands

☐ Isolated clumps of trees

☐ Open forest

☒ Open woodland

☐ Scrub

☐ Woodland

☐ Cleared

☐ Revegetated

☐ N/A

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☒ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☒ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

Distance to permanent water source	75	metres
Distance to temporary water source	1,250	metres
Name of nearest permanent water source	North Wambo Ck	
Name of nearest temporary water	Trib Nth Wambo Ck	

See attached map and DGPS location

☐	Public	National Park / other Government Dept.
☒	Private	

I.D. (I.D. Office Use only)

[illegible]

A blank 10x10 grid map. The grid is composed of 10 columns and 10 rows of squares. The grid is surrounded by a light pink border. The corners of the grid are labeled with compass directions: NW (top-left), NE (top-right), SW (bottom-left), and SE (bottom-right). The midpoints of the top and bottom edges are labeled N and S respectively. The midpoints of the left and right edges are labeled W and E respectively. A north arrow is located on the right side of the grid, pointing upwards, with the letter 'N' above it.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

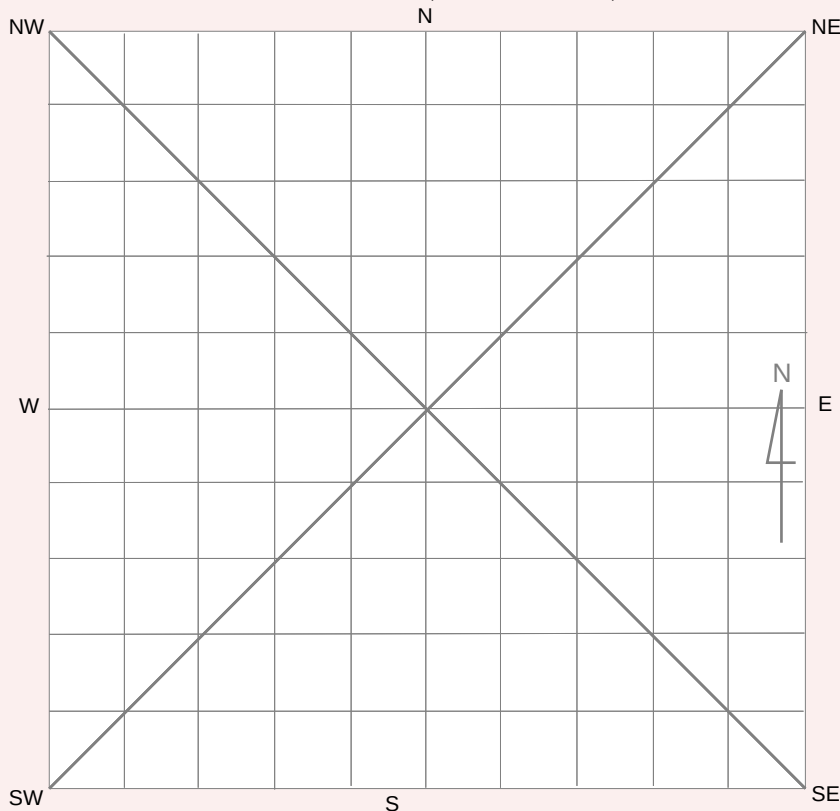
Open Site

Site Orientation

- ☐ N-S
☐ NE-SW
☒ E-W
☐ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features

Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 70 m Total length of visible site
 5 m Average width of visible site
 350 sq m Estimated area of visible site
 100 m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Wambo Site 382 (RPS SBUM AS1) is an artefact scatter and consists of three flaked artefacts (two mudstone flakes and one mudstone core) located along a disused access track on a lower, north east facing slope to the west of North Wambo Creek. The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and for vehicle access. Other disturbances included water runoff and sheet wash erosion. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. Ground surface visibility and exposure were moderate to high along the track and the sheet washed area. Clayey B Horizon soils were noted with pebble laterite and alluvial sands atop a clay B horizon evident across the slope. All exposed areas were inspected for further Aboriginal objects, but none were identified. If proposed or existing mining activities are likely to harm the site then it is recommended that the site be salvaged subject to an appropriate permit being in force and the artefacts or objects be relocated to the temporary keeping place (currently Permit #3130)

Endorsed by: ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Initials

--	--	--

[illegible][illegible]

--	--

[illegible][illegible][illegible][illegible]

Comments

- ☒ A4 location map
- ☐ B/W photographs
- ☒ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☐ Other
- ☐ Feature inserts-No.

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is a vertical margin line on the left side, creating a narrow left margin. The paper appears to be from a notebook or a standard ruled document.

NPWS FEATURE RECORDING FORM - ARTEFACT

page 1

Site I.D.

Site Name

Wambo Site 382 (RPS SBUM AS1)

First recorded date

29/5/2015

Importance

Cannot be presently determined

No. of instances

3

Recorded by

RPS

Yes No

Stone artefacts only

Yes

Artefacts collected

No

Permit issued

Yes

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

0-9%

Feature Context & Condition

Scatter No.

Easting

3 0 8 1 8 4

Northing

6 3 9 4 2 5 9

Density

Dimensions

Yes No

(Artefact count per square metre)

<1

70

Length (m)

5

Width (m)

0

Depth (m)

In situ

No

Stratified

No

Feature Condition

General Condition

Recommended Action

☐

Very good

☒

Weathered

☐

Boardwalk

☒

Revegetation

☐

Good

☒

Vehicle damage

☐

Fencing

☐

Signage

☒

Poor

☒

Surface water wash

☐

Closure to public

☐

Soil erosion control

☐

Fire damage

☐

Continued inspection

☐

Track closure/re-routing

☒

Erosion

☐

Fire hazard reduction

☐

Additional recording

☒

Stock damage

☐

Expert assessment

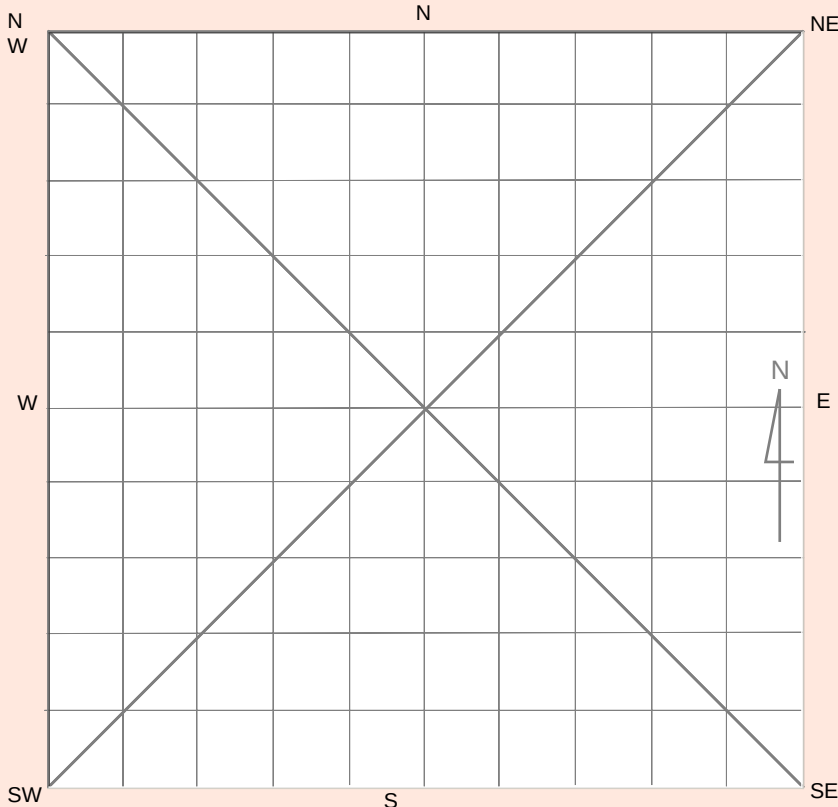
☒

Exposed archaeological material

☐

Meeting with land manager

Feature Plan (Indicate scale, location of instances)



Feature Environment

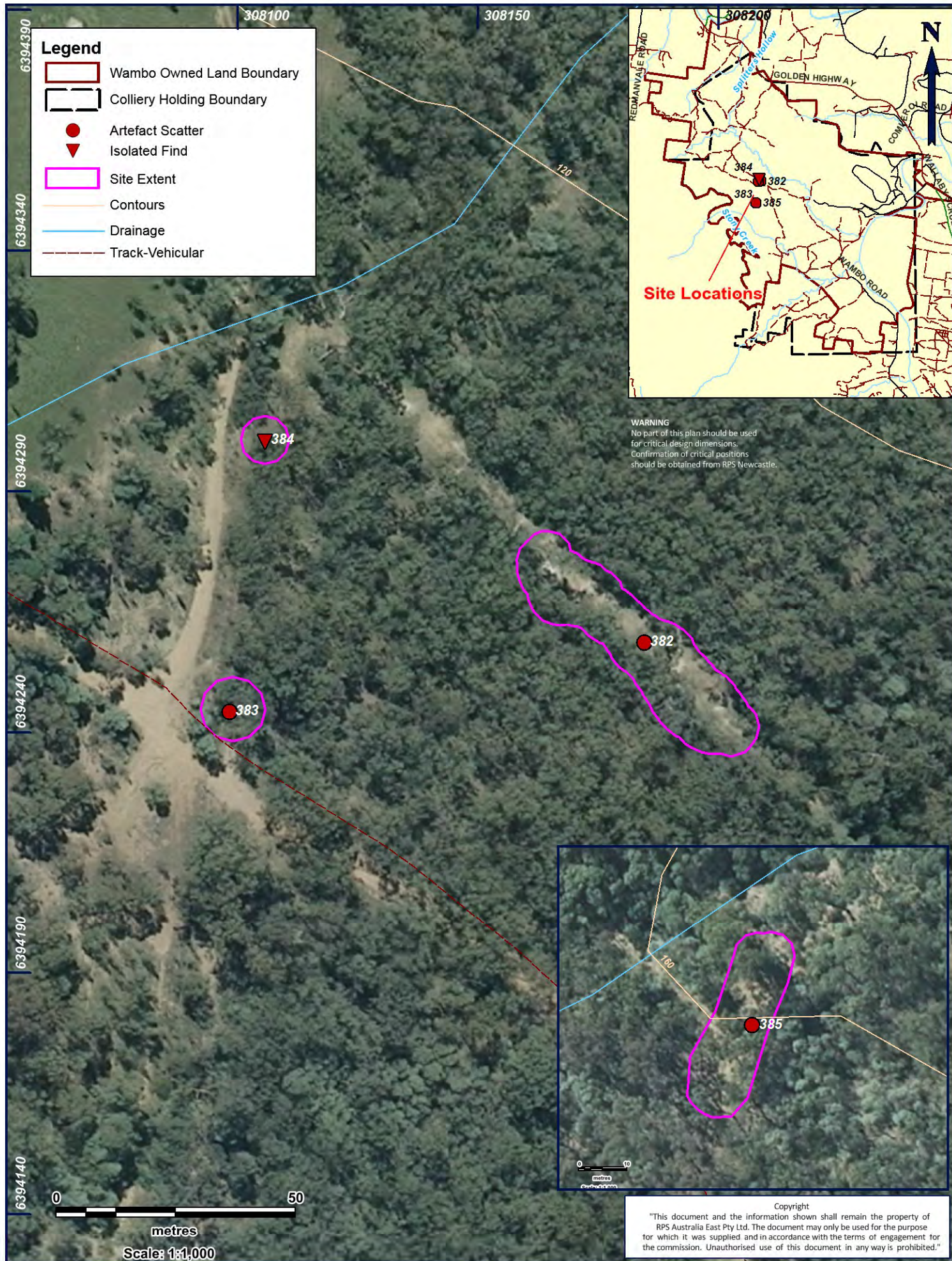
(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2) Land form Land form unit Slope Vegetation Land use

Water

Distance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 382-385 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database
Archaeology\Site Cards Maps
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 382

Wambo Site 382 (RPS SBUM AS1) is an artefact scatter and consists of three flaked artefacts (two mudstone flakes and one mudstone core) located along a disused access track on a lower, north east facing slope to the west of North Wambo Creek.

The closest permanent water source to the site is North Wambo Creek more than a kilometre to the north east with an unnamed first order ephemeral tributary of North Wambo Creek approximately 75 metres to the north west.

The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and for vehicle access. Other disturbances included water runoff and sheet wash erosion. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. Ground surface visibility and exposure were moderate to high along the track and the sheet washed area. Clayey B Horizon soils were noted with pebble laterite and alluvial sands atop a clay B horizon evident across the slope.

Photos



Wambo Site 382 – Site location disused access track



Wambo Site 382 Red/yellow mudstone core



Wambo Site 382 Red/yellow mudstone core



Wambo Site 382 Red mudstone flake and yellow mudstone flake



Wambo Site 382 Red mudstone flake and yellow mudstone flake

Table: Artefact Attributes – Wambo Site 382

ID	Artefact Type	Complete-ness	Raw Material	Colour	Length (mm)	Width (mm)	Thickness (mm)	Details	Location
1	Flake	Complete	Mudstone	Red	20	12	8	20% cortex	Lower slope west of North Wambo Creek; disused access track
2	Flake	Complete	Mudstone	Yellow	45	35	25	20% cortex	Lower slope west of North Wambo Creek; disused access track
3	Core	Complete	Mudstone	Red/Yellow	40	35	35	10% cortex	Lower slope west of North Wambo Creek; disused access track



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office of
Environment
& Heritage

Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting

Northing

AGD/GDA

Mapsheet

Zone

Location Method

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

Office Use
Only

Client on
system

Client on
system

Client on
system

Open Site

SE 1

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Open Site

Site Orientation

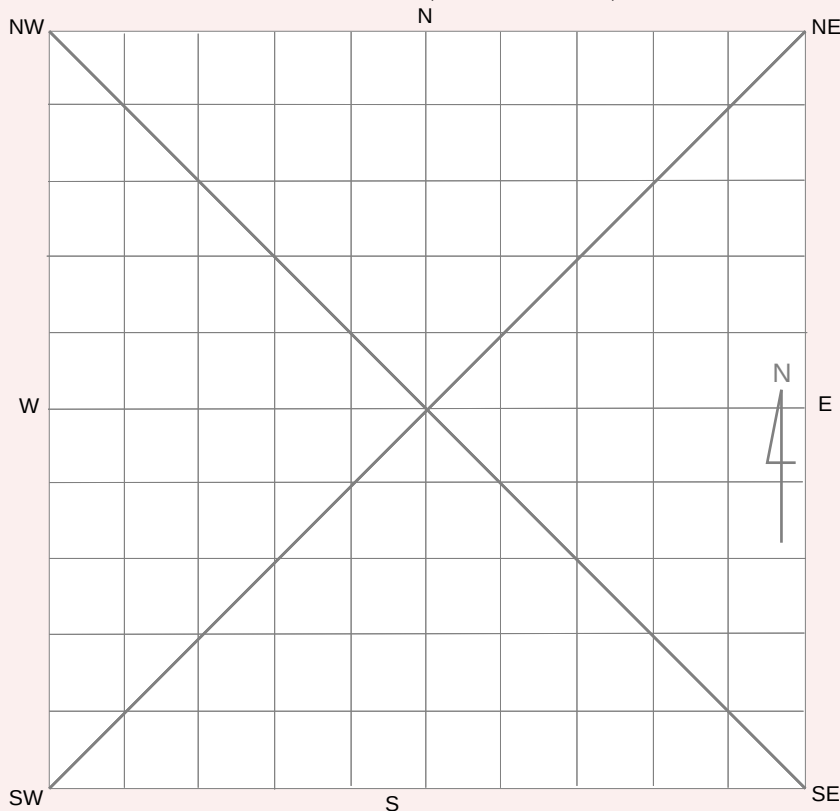
- ☐ N-S
☐ NE-SW
☐ E-W
☒ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan

Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 5m Total length of visible site
 5m Average width of visible site
 25sq m Estimated area of visible site
 20m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Wambo Site 383 (RPS SBUM AS2) is an artefact scatter and consists of two flaked artefacts (one mudstone flake and one mudstone core) located by a tree alongside an access track on a lower, north east facing slope to the west of North Wambo Creek. The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and for vehicle access. Other disturbances included water runoff and sheet wash erosion. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. Ground surface visibility and exposure was high along the track and the sheet washed area. Soils were noted with pebble laterite and A horizon sands atop a clay B horizon evident across the slope. All exposed areas were inspected for further Aboriginal objects, but none were identified. If proposed or existing mining activities are likely to harm the site then it is recommended that the site be salvaged subject to an appropriate permit being in force and the artefacts or objects be relocated to the temporary keeping place (currently Permit #3130)

[illegible]

☒ A4 location map

☐ B/W photographs

☒ Colour photographs

☐ Slides

☐ Aerial photographs

☐ Site plans, drawings

☐ Recording tables

☐ Other

☐ Feature inserts-No.

[illegible]

NPWS FEATURE RECORDING FORM - ARTEFACT

page 1

Site I.D.

Site Name

Wambo Site 383 (RPS SBUM AS2)

First recorded date

29/5/2015

Importance

Cannot be presently determined

No. of instances

2

Recorded by

RPS

Yes No

Stone artefacts only

Yes

Artefacts collected

No

Permit issued

Yes

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

0-9%

Feature Context & Condition

Scatter No.

Easting

3 0 8 0 9 7

Northing

6 3 9 4 2 4 5

Density

Dimensions

Yes No

(Artefact count per square metre)

<1

5

Length (m)

5

Width (m)

0

Depth (m)

In situ

No

Stratified

No

Feature Condition

General Condition

Recommended Action

☐

Very good

☒

Weathered

☐

Boardwalk

☒

Revegetation

☐

Good

☒

Vehicle damage

☐

Fencing

☐

Signage

☒

Poor

☒

Surface water wash

☐

Closure to public

☐

Soil erosion control

☐

Fire damage

☐

Continued inspection

☐

Track closure/re-routing

☒

Erosion

☐

Fire hazard reduction

☐

Additional recording

☒

Stock damage

☐

Expert assessment

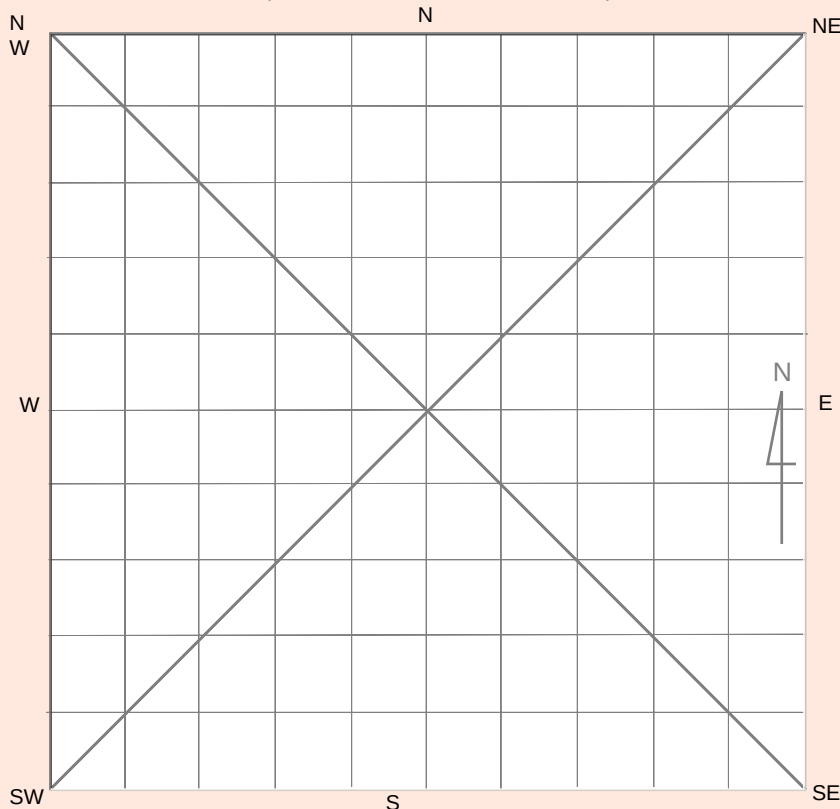
☒

Exposed archaeological material

☐

Meeting with land manager

Feature Plan (Indicate scale, location of instances)



Feature Environment

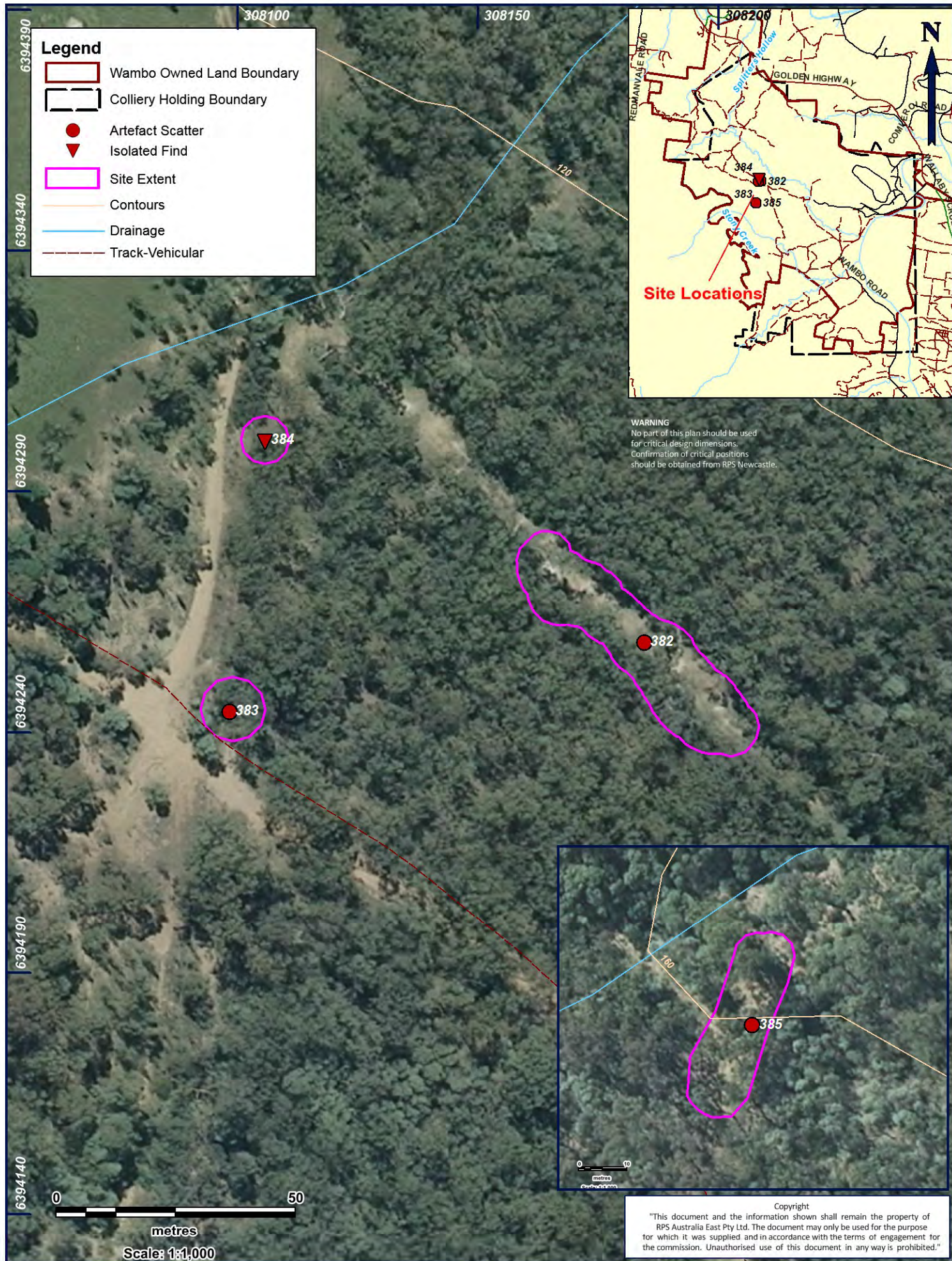
(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2) Land form Land form unit Slope Vegetation Land use

Water

Distance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 382-385 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database
Archaeology\Site Cards Maps
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 383

Wambo Site 383 (RPS SBUM AS2) is an artefact scatter and consists of two flaked artefacts (one mudstone flake and one mudstone core) located close to the base of a tree alongside an access track on a lower, north east facing slope to the west of North Wambo Creek. The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and access. Other disturbances included water runoff and sheet wash erosion and previous use as a vehicle track. Ground surface visibility and exposure were moderate along the track and the sheet washed area. All exposed areas were inspected for further Aboriginal objects, but none were identified

The closest permanent water source to the site is North Wambo Creek more than a kilometre to the north east with an unnamed first order ephemeral tributary of North Wambo Creek approximately 80 metres to the north west. Clayey B Horizon soils were noted with pebble laterite and A horizon sands redeposited by water runoff onto the clay B horizon.

The ground surface exposure was approximately 75% with a ground surface visibility of 80%. Soils at the site were predominantly a clayey B horizon. There was pebble laterite scattered across the surface with some redeposited sandy A horizon soils. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. Disturbances included previous land clearing, fencing, sheet wash erosion and use of the track for vehicle access.

Photos



Wambo Site 383 – Site location artefacts close to base of ironbark tree



Wambo Site 383 Red/yellow mudstone core and red mudstone flake



Wambo Site 383 Red/yellow mudstone core and red mudstone flake

Table: Artefact Attributes – Wambo Site 383

ID	Artefact Type	Complete-ness	Raw Material	Colour	Length (mm)	Width (mm)	Thickness (mm)	Details	Location
1	Flake	Complete	Mudstone	Red	25	25	15	5% cortex	Lower slope west of North Wambo Creek; access track
2	Core	Complete	Mudstone	Red/Yellow	45	40	15	10% cortex	Lower slope west of North Wambo Creek; access track



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting

Northing

AGD/GDA

Mapsheet

Zone

Location Method

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

29/5/2015

Office Use Only

Client on system

☐

Client on system

☐

Client on system

☐

Open Site

Landform

Slope
 degrees

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek

- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

☐ Closed forest

☐ Grasslands

☐ Isolated clumps of trees

☐ Open forest

☒ Open woodland

☐ Scrub

☐ Woodland

☐ Cleared

☐ Revegetated

☐ N/A

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☒ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☒ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

Distance to permanent water source	25	metres
Distance to temporary water source	1,250	metres
Name of nearest permanent water source	North Wambo Ck	
Name of nearest temporary water	Trib Nth Wambo Ck	

See attached map and DGPS location

☐ Public National Park / other Government Dept.

☒ Private

I.D. (I.D. Office Use only)

A blank 10x10 grid map. The grid is composed of 10 columns and 10 rows of squares. The corners are labeled with compass directions: NW (top-left), NE (top-right), SW (bottom-left), and SE (bottom-right). The midpoints of the top and bottom edges are labeled 'N' and 'S' respectively. The midpoints of the left and right edges are labeled 'W' and 'E' respectively. A north arrow is located on the right side of the grid, pointing upwards, with the letter 'N' above it.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Open Site

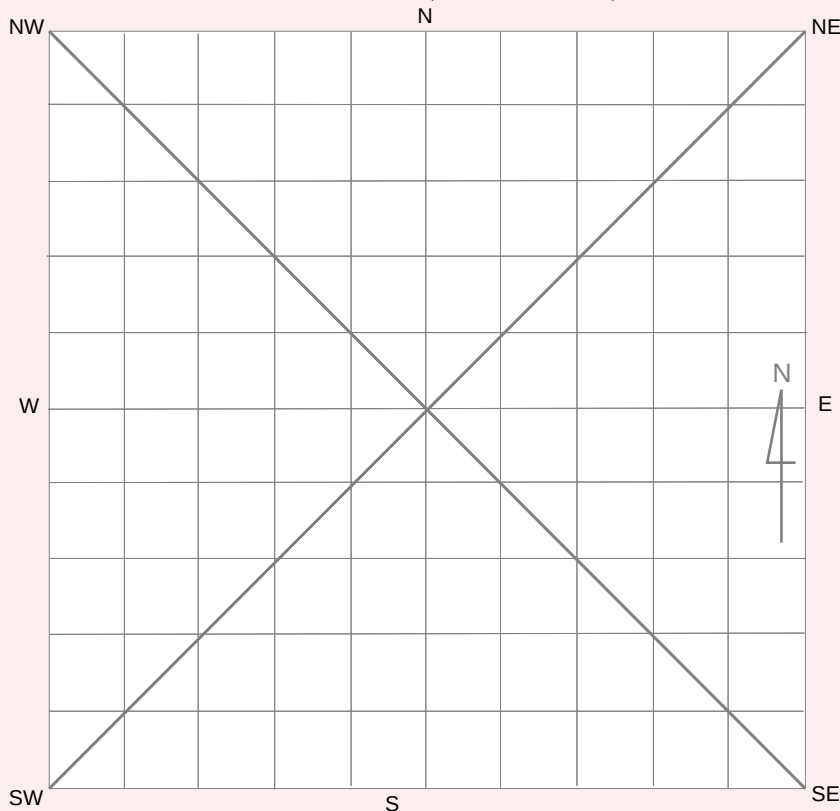
Site Orientation

- ☐ N-S
☐ NE-SW
☐ E-W
☒ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 5m Total length of visible site
 5m Average width of visible site
 25sq m Estimated area of visible site
 20m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Wambo Site 384 (RPS SBUM IF1) is an isolated find and consists of one red mudstone flake located by a tree alongside an access track on a lower, north east facing slope to the west of North Wambo Creek. The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and for vehicle access. Other disturbances included water runoff and sheet wash erosion. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. Ground surface visibility and exposure was high along the track and the sheet washed area. Soils were noted with pebble laterite and A horizon sands atop a clay B horizon evident across the slope. All exposed areas were inspected for further Aboriginal objects, but none were identified. If proposed or existing mining activities are likely to harm the site then it is recommended that the site be salvaged subject to an appropriate permit being in force and the artefacts or objects be relocated to the temporary keeping place (currently Permit #3130)

Endorsed by: ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title	Surname	First Name	Initials
Organisation			
Address			
Phone number		Fax	

Comments

- ☒ A4 location map
- ☐ B/W photographs
- ☒ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☐ Other
- ☐ Feature inserts-No.

[illegible]

NPWS FEATURE RECORDING FORM - ARTEFACT

page 1

Site I.D. Site Name First recorded date Importance No. of instances Recorded by

Yes No

Stone artefacts only Artefacts collected Permit issued

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

Feature Context & Condition

Scatter No. Easting Northing

Density

Dimensions

Yes No

(Artefact count per square metre)

Length (m)

Width (m)

Depth (m)

In situ

Stratified

Feature Condition

General Condition

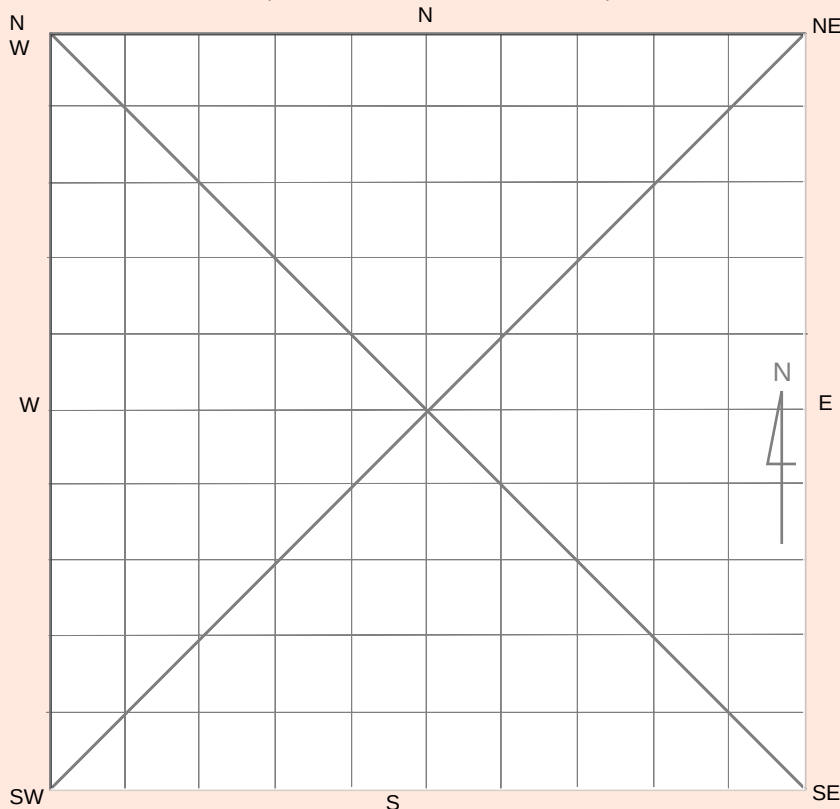
Recommended Action

- ☐ Very good
- ☐ Good
- ☒ Poor

- ☒ Weathered
- ☒ Vehicle damage
- ☒ Surface water wash
- ☐ Fire damage
- ☒ Erosion
- ☒ Stock damage
- ☒ Exposed archaeological material

- ☐ Boardwalk
- ☐ Fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Fire hazard reduction
- ☐ Expert assessment
- ☐ Meeting with land manager
- ☒ Revegetation
- ☐ Signage
- ☐ Soil erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan (Indicate scale, location of instances)



Feature Environment

(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

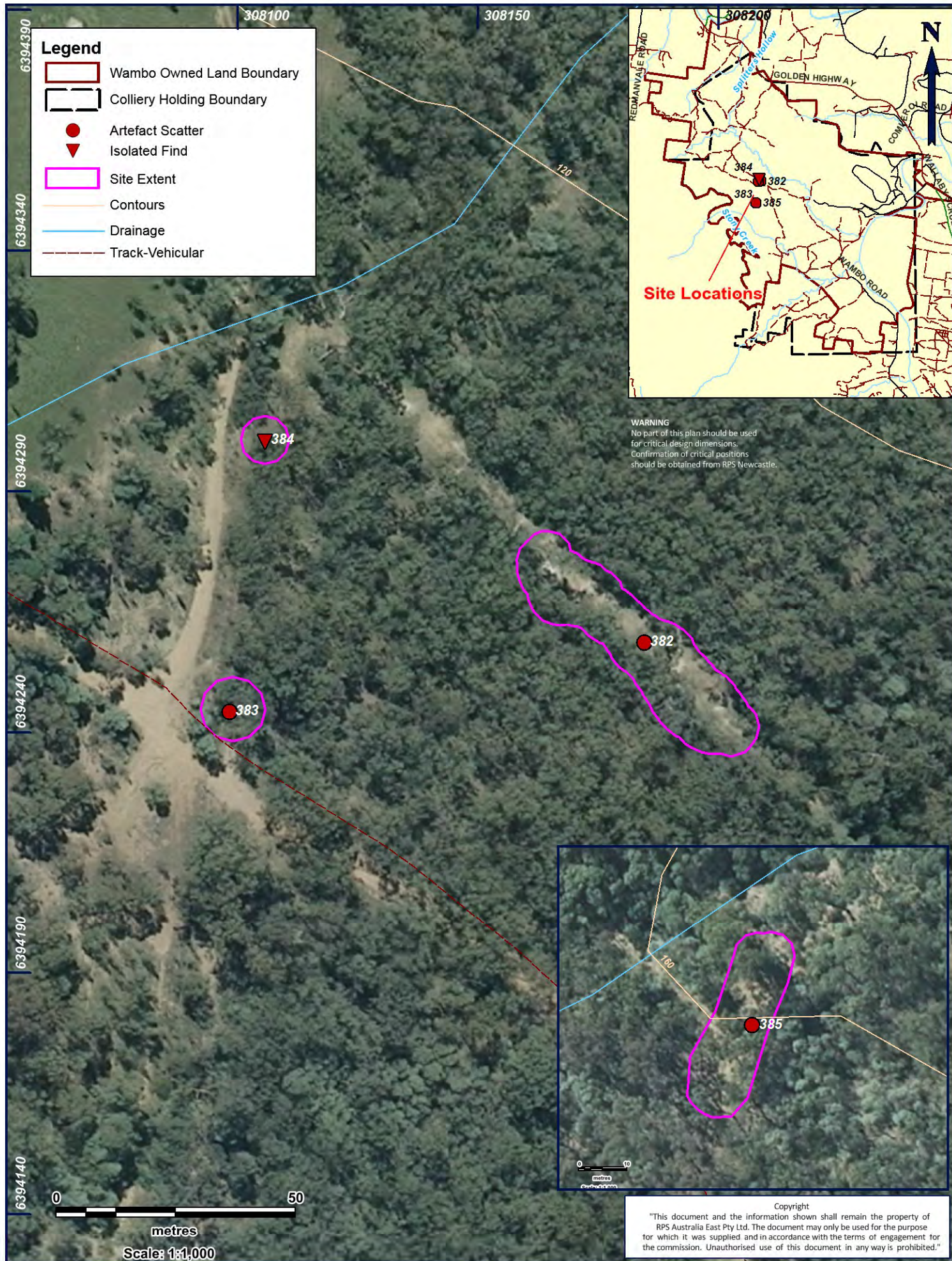
Land use

Water

Distance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 382-385 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database
Archaeology\Site Cards Maps
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 384

Wambo Site 384 (RPS SBUM IF1) is an isolated find, a red mudstone retouched flake close to a vehicle access track. The artefact was located close to the base of a nearby mature ironbark tree. It was found on a lower north east facing slope to the west of North Wambo Creek. The closest permanent water source to the site is North Wambo Creek more than a kilometre to the north east with an unnamed first order ephemeral tributary of North Wambo Creek approximately 25 metres to the north west.

The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and access. Disturbances included previous land clearing, fencing, sheet wash erosion and use of the track for vehicle access.

The ground surface exposure was approximately 75% with a ground surface visibility of 80%. Soils at the site were predominantly a clayey B horizon. There was pebble laterite scattered across the surface with some redeposited sandy A horizon soils. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. All exposed areas were inspected for further Aboriginal objects, but none were identified.

Photos



Wambo Site 384 – Site location isolated mudstone flake close to base of ironbark tree



Wambo Site 384 Red mudstone flake



Wambo Site 384 Red mudstone flake

Table: Artefact Attributes – Wambo Site 384

ID	Artefact Type	Complete-ness	Raw Material	Colour	Length (mm)	Width (mm)	Thickness (mm)	Details	Location
1	Flake	Complete	Mudstone	Red	25	15	15	5% cortex	Lower slope west of North Wambo Creek; access track



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office of
Environment
& Heritage

Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting

Northing

AGD/GDA

Mapsheet

Zone

Location Method

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

Office Use
Only

Client on
system

Client on
system

Client on
system

Open Site

A 10x10 grid map. The grid is composed of 10 columns and 10 rows of squares. The cardinal directions are labeled at the corners: 'NW' at the top-left, 'NE' at the top-right, 'SW' at the bottom-left, and 'SE' at the bottom-right. The letters 'N', 'S', 'E', and 'W' are also placed at the midpoints of the top, bottom, right, and left edges, respectively. A north arrow is located on the right side of the grid, pointing upwards, with the letter 'N' above it. The entire grid is enclosed within a light gray border.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

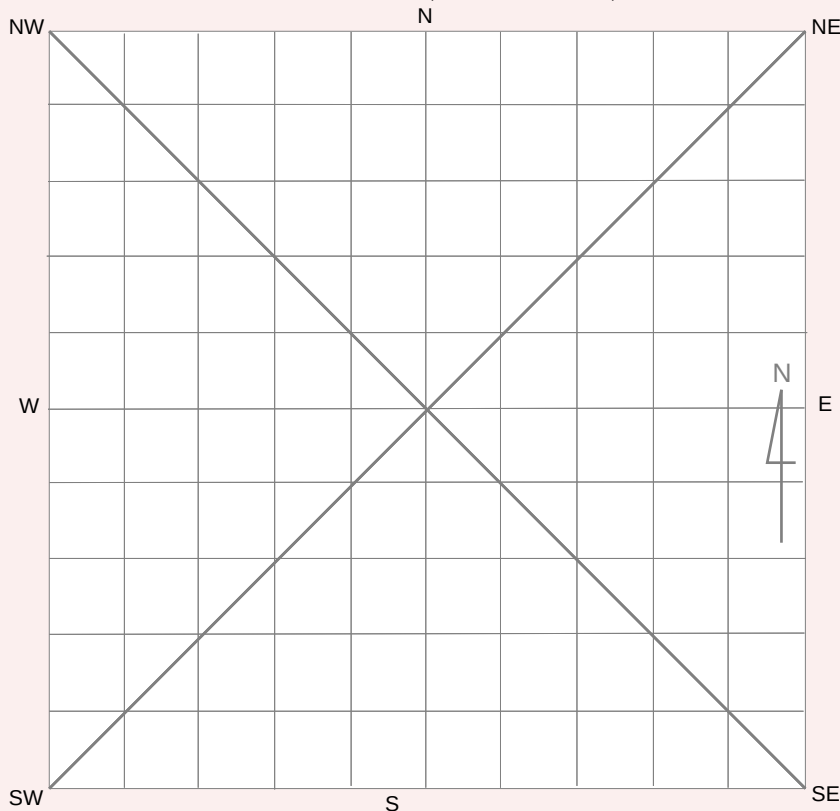
Open Site

Site Orientation

- ☒ N-S
☐ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features

Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 80m Total length of visible site
 5m Average width of visible site
 400sq m Estimated area of visible site
 100m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Wambo Site 385 (RPS SBUM AS3) is an artefact scatter and consists of several flaked silcrete and mudstone artefacts located by a tree alongside an access track on a mid to upper, north east facing slope to the west of North Wambo Creek. The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and for vehicle access. Other disturbances included water runoff and sheet wash erosion. Vegetation comprised open woodland with some trees, scattered shrubs and grasses. Ground surface visibility and exposure was high along the track and the sheet washed area. Soils were noted with pebble laterite and A horizon sands atop a clay B horizon evident across the slope. All exposed areas were inspected for further Aboriginal objects, but none were identified. If proposed or existing mining activities are likely to harm the site then it is recommended that the site be salvaged subject to an appropriate permit being in force and the artefacts or objects be relocated to the temporary keeping place (currently Permit #3130)

Endorsed by: ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title	Surname										First Name										Initials					
Organisation																										
Address																										
Phone number													Fax													

☒ A4 location map

☐ B/W photographs

☒ Colour photographs

☐ Slides

☐ Aerial photographs

☐ Site plans, drawings

☐ Recording tables

☐ Other

☐ Feature inserts-No.

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is a vertical red margin line on the left side, creating a narrow left margin. The paper appears to be from a notebook or a standard ruled document.

NPWS FEATURE RECORDING FORM - ARTEFACT

page 1

Site I.D. Site Name First recorded date Importance No. of instances Recorded by

Yes No

Stone artefacts only Artefacts collected Permit issued

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

Feature Context & Condition

Scatter No. Easting Northing

Density

Dimensions

Yes No

(Artefact count per square metre)

Length (m)

Width (m)

Depth (m)

In situ

Stratified

Feature Condition

General Condition

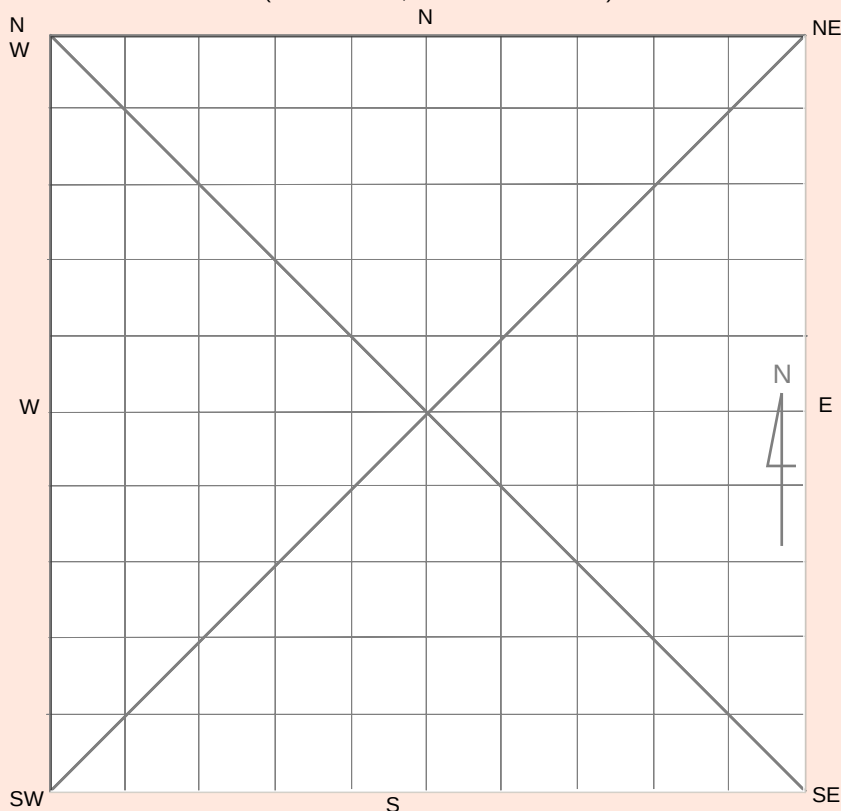
Recommended Action

- ☐ Very good
- ☐ Good
- ☒ Poor

- ☒ Weathered
- ☒ Vehicle damage
- ☒ Surface water wash
- ☐ Fire damage
- ☒ Erosion
- ☒ Stock damage
- ☒ Exposed archaeological material

- ☐ Boardwalk
- ☐ Fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Fire hazard reduction
- ☐ Expert assessment
- ☐ Meeting with land manager
- ☒ Revegetation
- ☐ Signage
- ☐ Soil erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan (Indicate scale, location of instances)



Feature Environment

(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

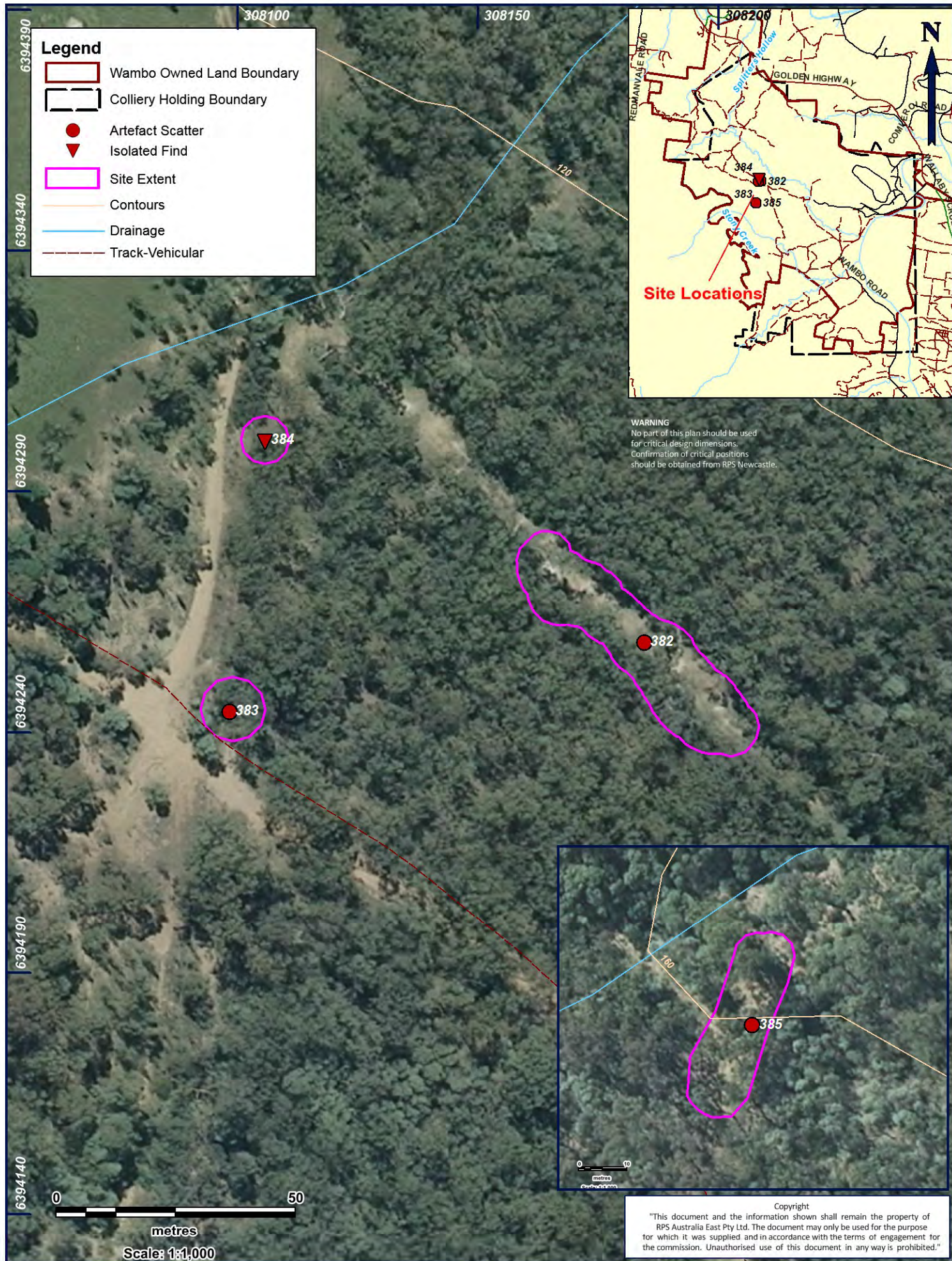
Land use

Water

Distance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 382-385 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\JOBS\Wambo\Wambo Mapping Database
Archaeology\Site Cards Maps
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 385

Wambo Site 385 (RPS SBUM AS3) is an artefact scatter and comprises several mudstone and silcrete flaked artefacts located in a clearing close to the base of a tree alongside an access track on a mid to upper, north east facing slope to the west of North Wambo Creek.

The closest permanent water source to the site is North Wambo Creek approximately two kilometres to the north east with an unnamed first order ephemeral tributary of North Wambo Creek approximately 20 metres to the west.

The area had been subject to previous farming practices including land clearing, fencing, cattle grazing and access. Other disturbances included water runoff and sheet wash erosion and previous use as a vehicle track.

Ground surface visibility and exposure were high along the track and the sheet washed area. The ground surface exposure was approximately 80% with a ground surface visibility of 80%. Soils at the site were predominantly a clayey B horizon. There was pebble laterite scattered across the surface with some redeposited sandy A horizon soils. Vegetation comprised open woodland with some trees, scattered shrubs and grasses.

Photos



Wambo Site 385 – Site location artefacts close to base of ironbark tree and across clearing



Wambo Site 385 Yellow mudstone flake



Wambo Site 385 Yellow mudstone flake



Wambo Site 385 Yellow mudstone flake



Wambo Site 385 Yellow mudstone flake



Wambo Site 385 Backed geometric microlith



Wambo Site 385 Backed geometric microlith

Table: Artefact Attributes – Wambo Site 385

ID	Artefact Type	Completeness	Raw Material	Colour	Length (mm)	Width (mm)	Thickness (mm)	Details	Location
1	Flake	Complete	Mudstone	Yellow	95	45	25	10% cortex	Mid to upper slope west of North Wambo Creek; clearing adjacent to access track
2	Flake	Complete	Silcrete	Yellow	45	30	29	0% cortex	Mid to upper slope west of North Wambo Creek; clearing adjacent to access track
3	Geometric microlith - backed	Complete	Silcrete	Red	20	15	5	0% cortex	Mid to upper slope west of North Wambo Creek; clearing adjacent to access track



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting

Northing

AGD/GDA

Mapsheet

Zone

Location Method

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

Office Use Only

Client on system

Client on system

Client on system

Open Site

A 10x10 grid map. The grid is composed of 10 columns and 10 rows of squares. The cardinal directions are labeled at the corners: 'NW' at the top-left, 'NE' at the top-right, 'SW' at the bottom-left, and 'SE' at the bottom-right. The letters 'N', 'S', 'E', and 'W' are also placed at the midpoints of the top, bottom, right, and left edges, respectively. A north arrow is located on the right side of the grid, pointing upwards, with the letter 'N' above it.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

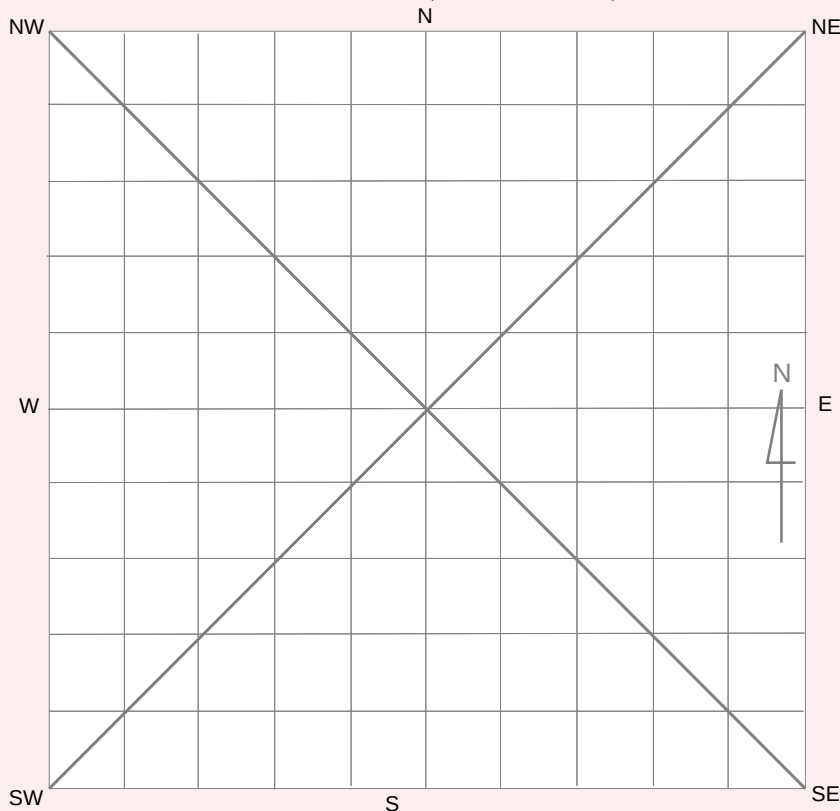
Open Site

Site Orientation

- ☒ N-S
☐ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☐ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☒ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features

Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 5m Total length of visible site
 5m Average width of visible site
 25sq m Estimated area of visible site
 20m Length of assessed site area

[illegible]

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

[illegible][illegible]

NPWS FEATURE RECORDING FORM - GROOVE

page 1

Site I.D. Site Name First recorded date Importance

Aboriginal Information Recorded?

No. of instances Recorded by

Feature Description

Type of Grinding Feature

- ☒ Broad
- ☐ Narrow/point
- ☐ Hollow
- ☐ Flat

Profile Shape

- ☒ 'U' shaped
- ☐ 'V' shaped
- ☐ Flat

Seed Species Present

Recording date

Groove Function

Dimensions

Smallest

Largest

Length (mm) Length (mm) Groove count Width (mm) Width (mm) Cluster count Depth (mm) Depth (mm)

Feature Context & Condition

Easting Northing Dimensions of Whole Feature Length (m) Width (m)

Feature Condition

- ☒ Very good
- ☐ Good
- ☐ Poor

General Condition

- ☐ Weathered
- ☐ Vandalised

General Condition ctd

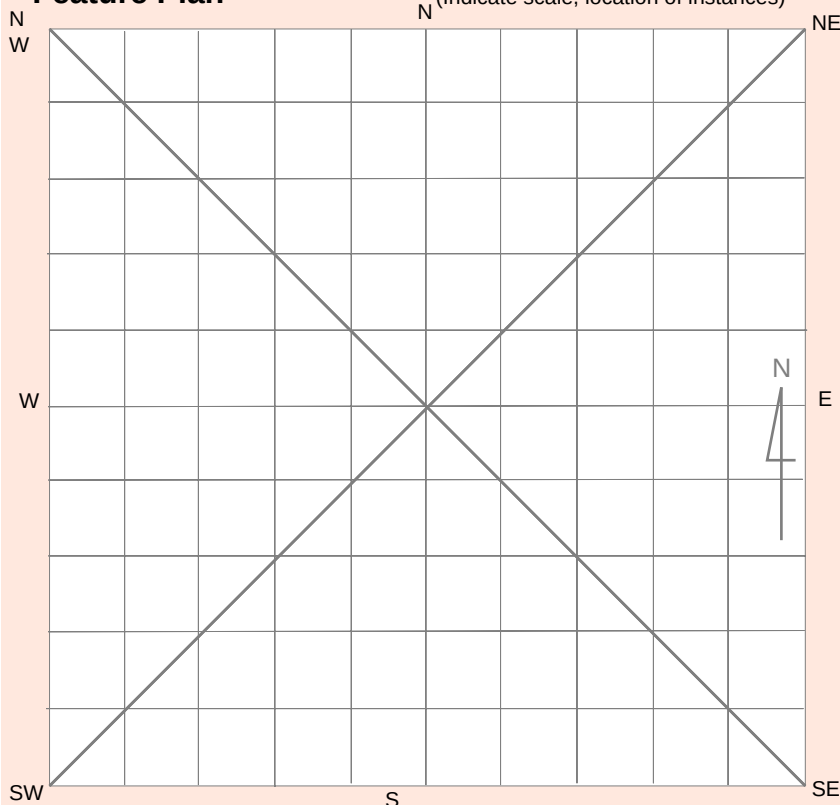
- ☐ Fire damage
- ☒ Surface water wash
- ☐ Graffiti
- ☐ Vehicle damage
- ☐ Erosion
- ☐ Stock damage

Recommended Action

- ☐ Boardwalk
- ☐ Cage/barrier/fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Expert assessment
- ☐ Graffiti removal
- ☐ Meeting with land manager
- ☐ Revegetation
- ☐ Rubbish removal
- ☐ Signage
- ☐ Erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan

(Indicate scale, location of instances)



Feature Environment

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

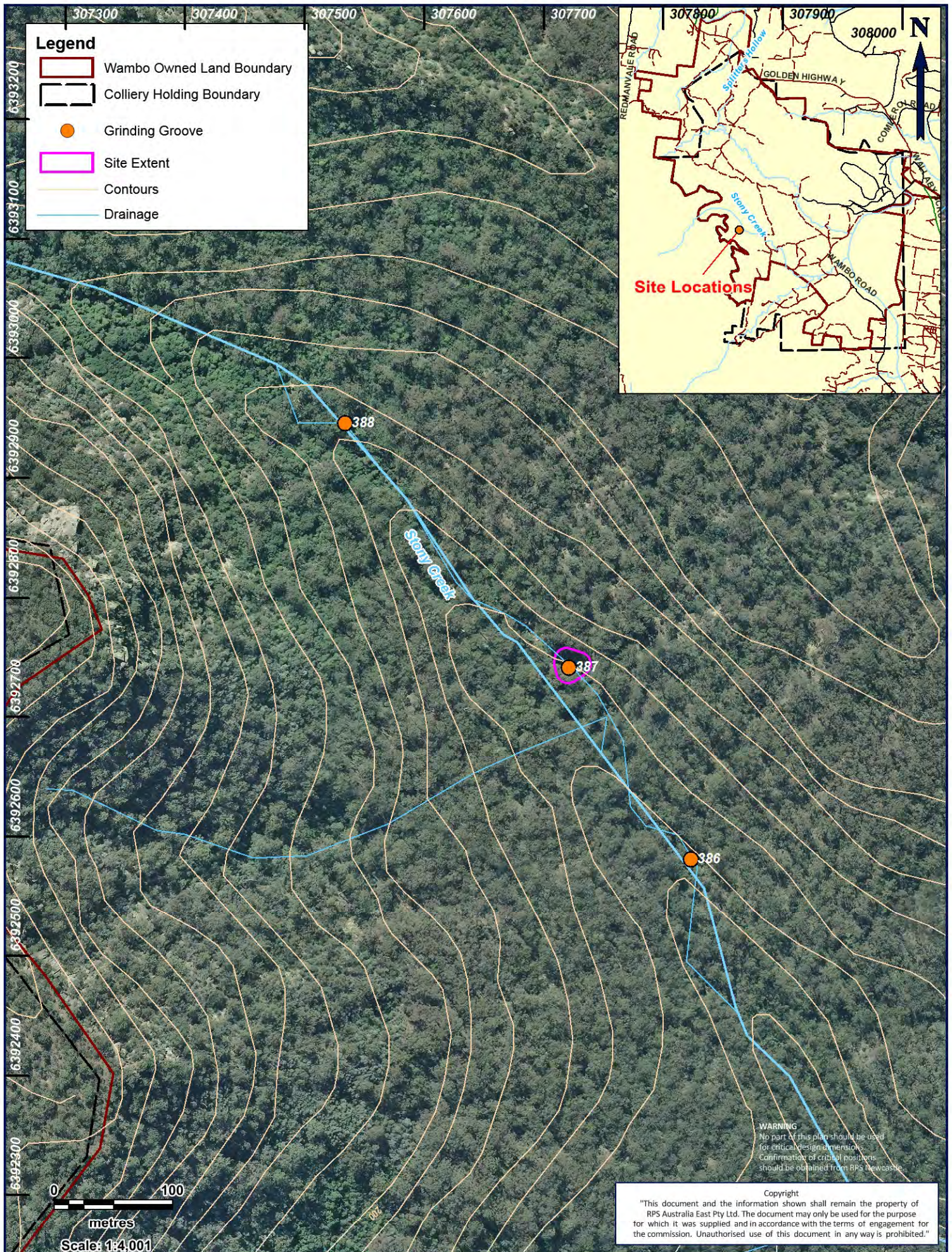
Land use

Water

Distance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 386-388 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\OBS\Wambo\Wambo Mapping Database
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 386

Wambo Site 386 (RPS SBUM GG1) is a grinding groove site with one visible grinding groove on the surface of fine grained sandstone bedrock in the bed of Stony Creek at the base of the Southern Mountains. Stony Creek valley is deeply incised in the section of the creek with the grinding groove site. The banks of the creek are steep and not easily accessible.

Ground surface visibility and exposure were moderate to high on the sandstone sheeting but extremely low on the creek banks. Soils at the site were predominantly sandy loam and river pebbles and cobbles. Conglomerate sandstone boulders were present along the banks. Vegetation was dense and the area was densely wooded with some trees, shrubs and grasses along the banks and up the slopes. Access to the site is along Stony Creek line from the junction of Stony Creek where the valley broadens out and an existing access track and creek crossing.

Photos



East of Wambo Site 386 – Stony Creek with pebbles and cobbles in creek bed



Wambo Site 386 Single grinding groove



Wambo Site 386 View of boulder lined creek bed and creek bank area



Wambo Site 386 View of typical vegetation on lower creek bank

Table: Grinding Groove Attributes – Wambo Site 386

ID	Artefact Type	Completeness	Raw Material	Colour	Length (mm)	Width (mm)	Depth (mm)	Details	Location
1	Grinding Groove	Complete	Fine grained sandstone bedrock	U shaped	110	50	8	Lip at edge of larger water filled depression	Stony Creek bed



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

W a m b o S i t e 3 8 7

Easting

3 0 7 7 2 1

Northing

6 3 9 2 7 4 2

AGD/GDA

GDA

Mapsheet

D O Y L E S C R E E K

Zone

56

Location Method

Differential GPS

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

04/06/2015

Office Use Only

Client on system

Client on system

Client on system

Open Site

A blank 10x10 grid map. The grid is composed of 10 columns and 10 rows of squares. The cardinal directions are labeled: 'N' at the top center, 'S' at the bottom center, 'E' on the right side, and 'W' on the left side. A north arrow is located on the right side of the grid, pointing upwards. The arrow is a simple line with a crossbar and a small 'N' above it. The grid is set against a light gray background.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

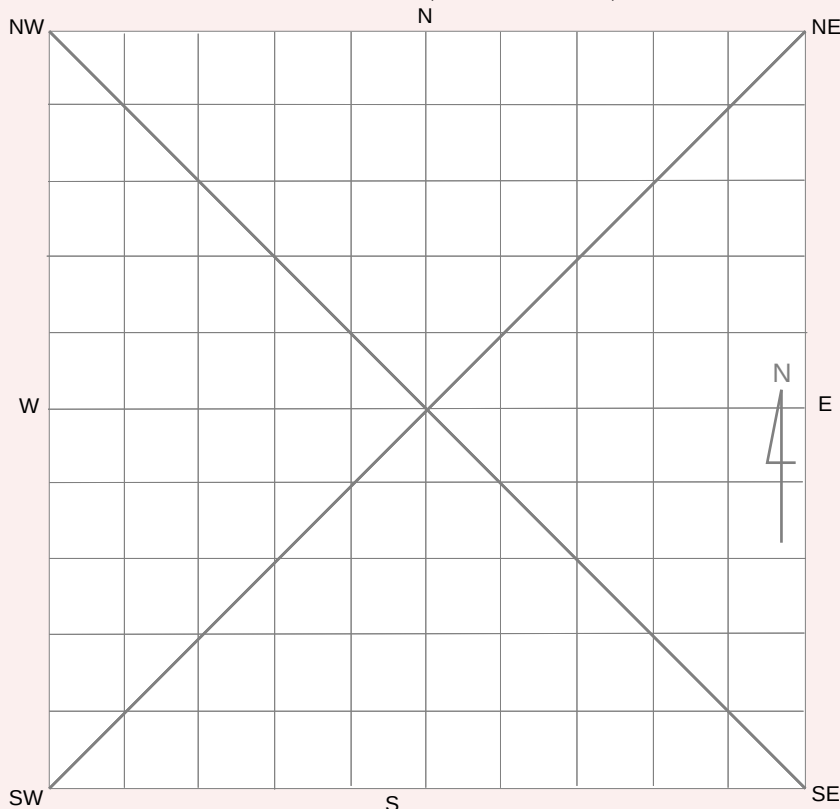
Open Site

Site Orientation

- ☐ N-S
☐ NE-SW
☐ E-W
☒ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☐ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☒ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features

Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 10m Total length of visible site
 10m Average width of visible site
 100sq m Estimated area of visible site
 20m Length of assessed site area

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is a margin at the top, and the paper is otherwise empty of any text or markings.

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

[illegible]

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is a vertical red margin line on the left side, creating a narrow left margin. The paper appears to be from a notebook or a standard ruled document.

NPWS FEATURE RECORDING FORM - GROOVE

page 1

Site I.D. Site Name First recorded date Importance

Aboriginal Information Recorded?

No. of instances Recorded by

Feature Description

Type of Grinding Feature

- ☒ Broad
- ☐ Narrow/point
- ☐ Hollow
- ☐ Flat

Profile Shape

- ☒ 'U' shaped
- ☐ 'V' shaped
- ☐ Flat

Seed Species Present

Recording date

Groove Function

Dimensions

Smallest

Length (mm) Width (mm) Depth (mm)

Largest

Length (mm) Width (mm) Depth (mm) Groove count Cluster count

Feature Context & Condition

Easting Northing Dimensions of Whole Feature Length (m) Width (m)

Feature Condition

- ☒ Very good
- ☐ Good
- ☐ Poor

General Condition

- ☐ Weathered
- ☐ Vandalised

General Condition ctd

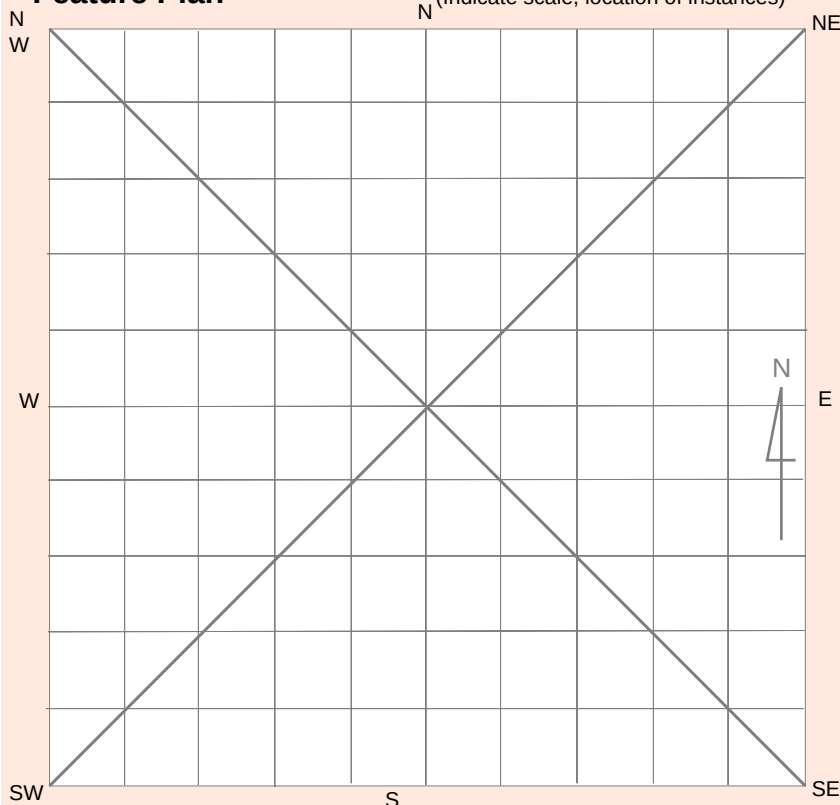
- ☐ Fire damage
- ☒ Surface water wash
- ☐ Graffiti
- ☐ Vehicle damage
- ☐ Erosion
- ☐ Stock damage

Recommended Action

- ☐ Boardwalk
- ☐ Cage/barrier/fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Expert assessment
- ☐ Graffiti removal
- ☐ Meeting with land manager
- ☐ Revegetation
- ☐ Rubbish removal
- ☐ Signage
- ☐ Erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan

(Indicate scale, location of instances)



Feature Environment

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

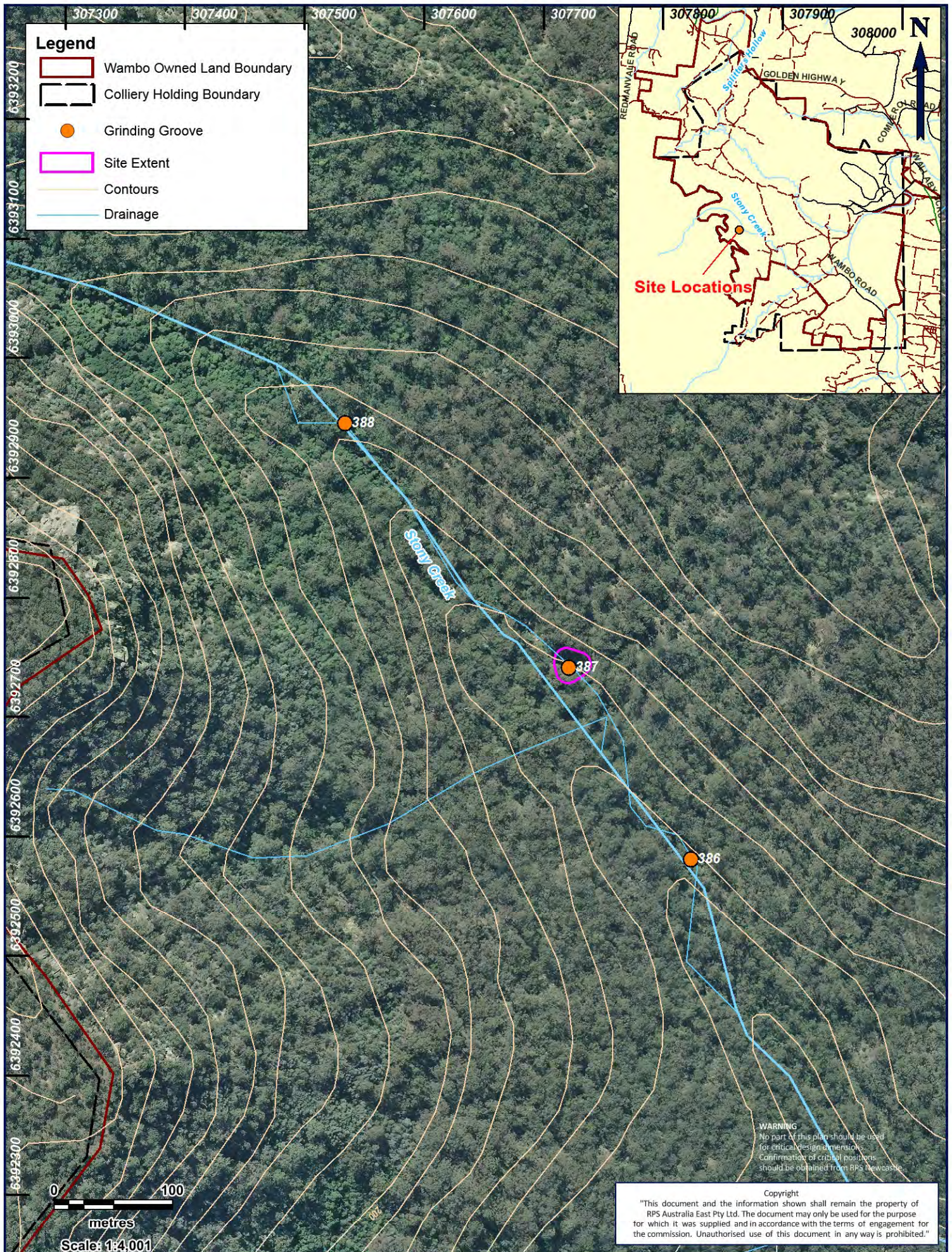
Land use

Water

Distance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 386-388 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\OBS\Wambo\Wambo Mapping Database
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 387

Wambo Site 387 (RPS SBUM GG2) is a grinding groove site with two visible grinding grooves and a waterhole on the surface of fine grained sandstone bedrock in the bed of Stony Creek at the base of the Southern Mountains. Stony Creek valley is deeply incised in the section of creek with the grinding groove site. The banks of the creek are steep and not easily accessible.

Ground surface visibility and exposure were moderate to high on the sandstone sheeting but extremely low on the creek banks. Soils at the site were predominantly sandy loam and river pebbles and cobbles. Conglomerate sandstone boulders were present along the banks. Vegetation was dense. The area was densely wooded with some trees, shrubs and grasses along the banks and up the slopes.

Photos



East of Wambo Site 386 & 388 – Stony Creek with pebbles and cobbles in creek bed



Wambo Site 387 View along Stony Creek showing boulder lined creek bank & sandstone bedrock



Wambo Site 387 View of creek bed showing grinding grooves in foreground



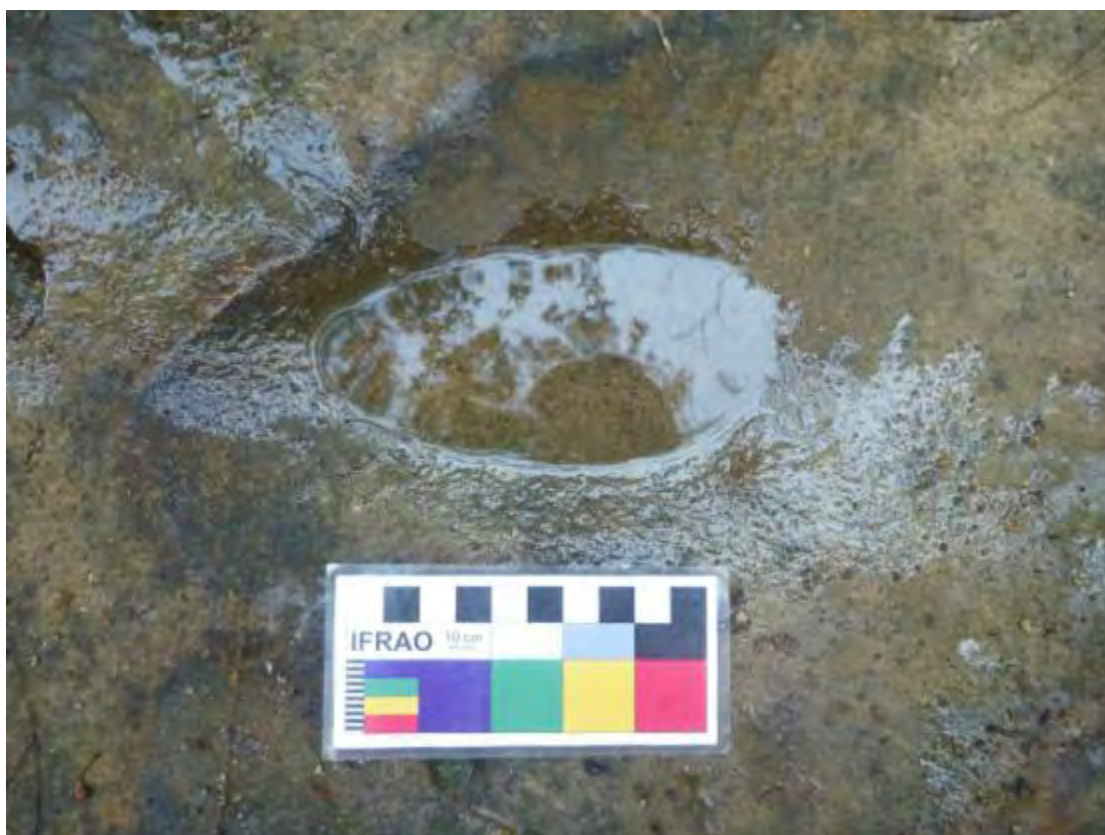
Wambo Site 387 View showing detail of grinding grooves



Wambo Site 387 View of jointed sandstone with grooves



Wambo Site 387 Grinding Groove detail



Wambo Site 387



Wambo Site 387 Water hole

Table: Grinding Groove Attributes – Wambo Site 387

ID	Artefact Type	Completeness	Raw Material	Colour	Length (mm)	Width (mm)	Depth (mm)	Details	Location
1	Grinding Groove	Complete	Fine grained sandstone bedrock	U shaped	130	60	10	Groove on fine grained sandstone bedrock	Stony Creek bed
2	Grinding Groove	Complete	Fine grained sandstone bedrock	U shaped	160	40	8	Groove on fine grained sandstone bedrock	Stony Creek bed
3	Water hole	Complete	Medium grained sandstone bedrock	Circular	250	250	15	Water filled depression	Stony Creek bed



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting

Northing

AGD/GDA

Mapsheet

Zone

Location Method

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Date recorded

04/06/2015

Office Use Only

Client on system

☐

Client on system

☐

Client on system

☐

Open Site

A blank 10x10 grid with directional labels (N, NE, E, SE, S, SW, W, NW) and a north arrow.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Open Site

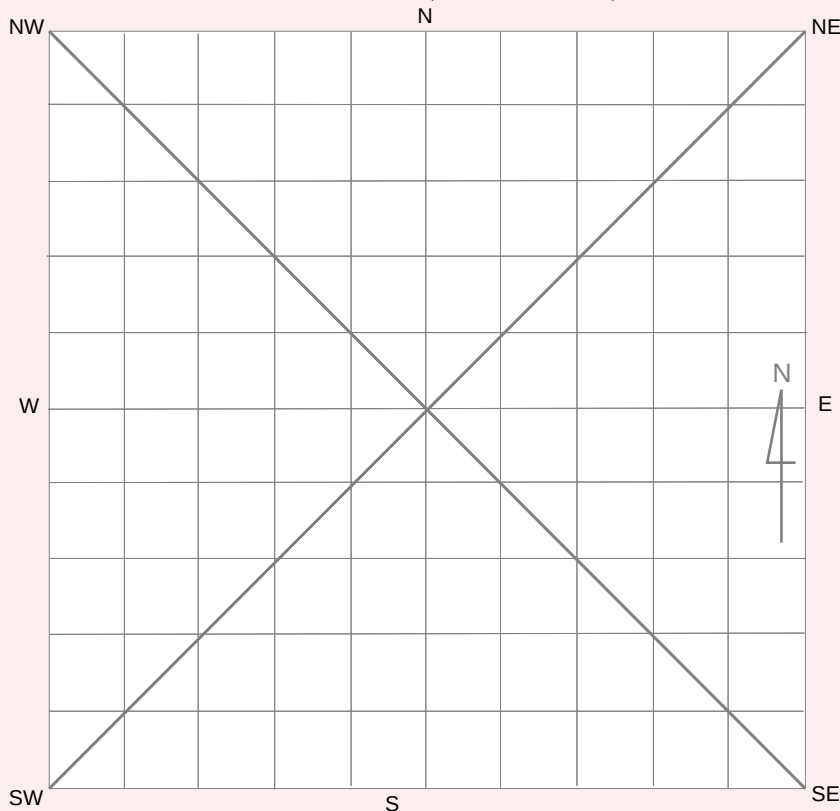
Site Orientation

- ☐ N-S
☐ NE-SW
☐ E-W
☒ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☐ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☒ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 5m Total length of visible site
 5m Average width of visible site
 25sq m Estimated area of visible site
 20m Length of assessed site area

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

[illegible][illegible]

Site I.D. Site Name First recorded date Importance

Aboriginal Information Recorded?

No. of instances Recorded by **Feature Description****Type of Grinding Feature**

- ☒ Broad
- ☒ Narrow/point
- ☐ Hollow
- ☐ Flat
- Profile Shape**
- ☒ 'U' shaped
- ☒ 'V' shaped
- ☐ Flat

Seed Species PresentRecording date **Groove Function****Dimensions****Smallest**Length (mm) Width (mm) Depth (mm) **Largest**Length (mm) Width (mm) Depth (mm) Groove count Cluster count **Feature Context & Condition**Easting Northing Dimensions of Whole Feature Length (m) Width (m)**Feature Condition**

- ☒ Very good
- ☐ Good
- ☐ Poor

General Condition

- ☐ Weathered
- ☐ Vandalised

General Condition ctd

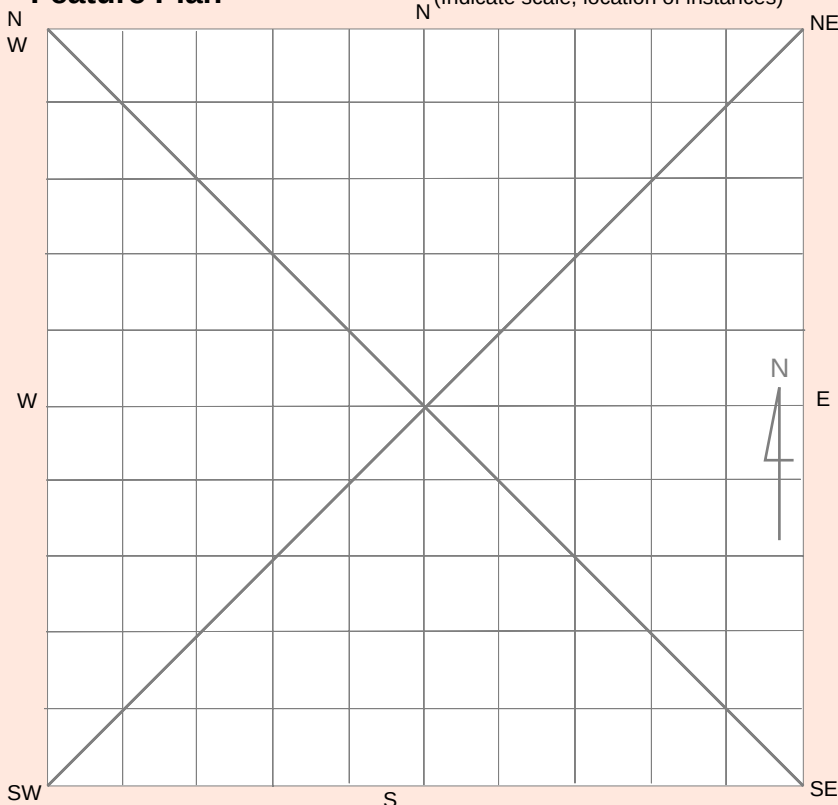
- ☐ Fire damage
- ☒ Surface water wash
- ☐ Graffiti
- ☐ Vehicle damage
- ☐ Erosion
- ☐ Stock damage

Recommended Action

- ☐ Boardwalk
- ☐ Cage/barrier/fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Expert assessment
- ☐ Graffiti removal
- ☐ Meeting with land manager
- ☐ Revegetation
- ☐ Rubbish removal
- ☐ Signage
- ☐ Erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan

(Indicate scale, location of instances)

**Feature Environment**

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

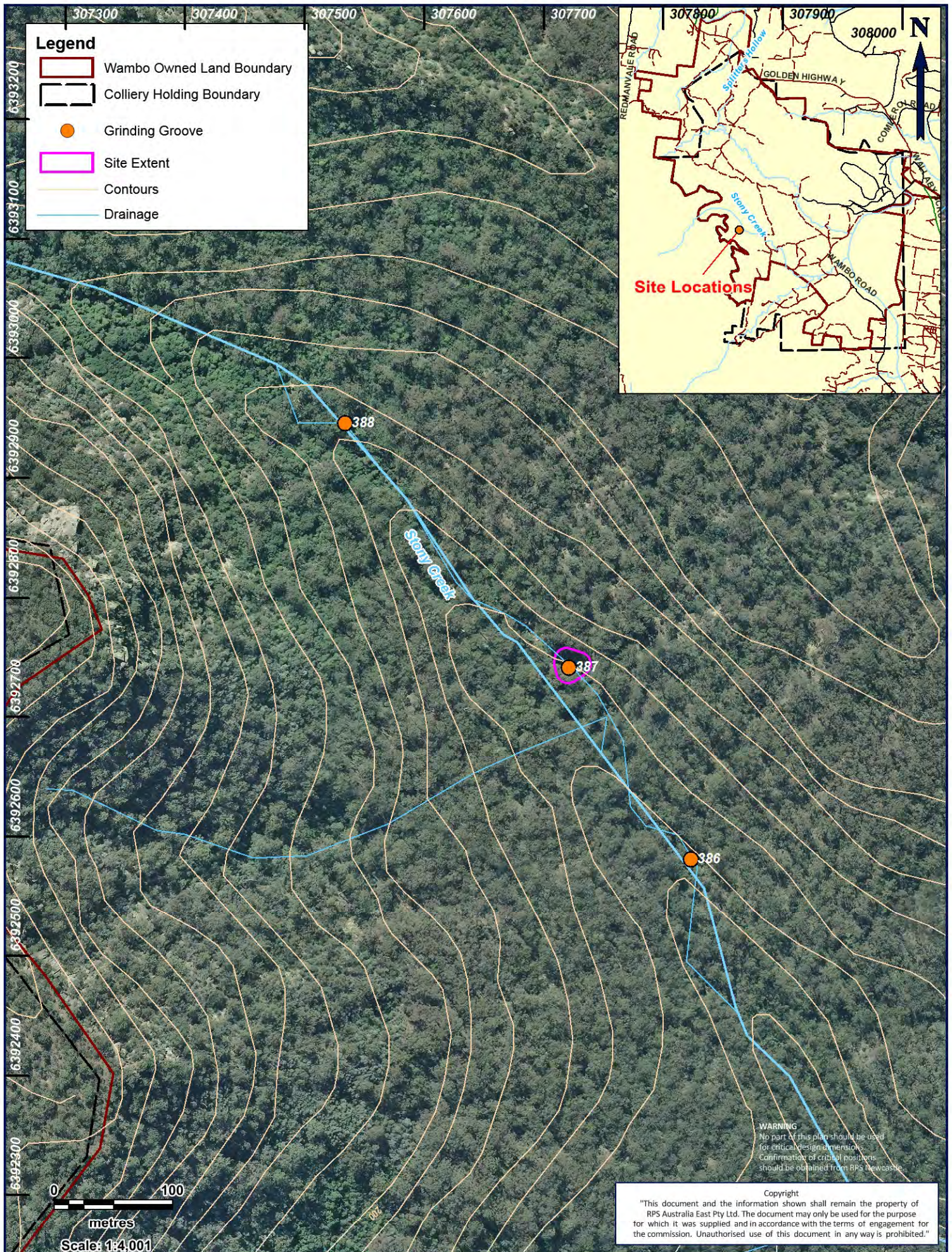
Vegetation

Land use

WaterDistance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water



TITLE: WAMBO SITE 386-388 LOCATIONS

LOCATION: WAMBO MINE

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 22/06/2015
PURPOSE: HERITAGE

LAYOUT REF: J:\OBS\Wambo\Wambo Mapping Database
VERSION (PLAN BY): A A4 (NW-GG)

DATE DUE DIL: 28-29/05/2015

CLIENT:
JOB REF: 126088-1

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

Site Description Wambo Site 388

Wambo Site 388 (RPS SBUM GG3) is a grinding groove site with two visible grinding grooves on the surface of fine grained sandstone bedrock in the bed of Stony Creek at the base of the Southern Mountains. Stony Creek valley is deeply incised in the section of creek with the grinding groove site. The banks of the creek are steep and not easily accessible.

Ground surface visibility and exposure were moderate to high on the sandstone sheeting but extremely low on the creek banks. Soils at the site were predominantly sandy loam and river pebbles and cobbles. Conglomerate sandstone boulders were present along the banks. Vegetation was dense. The area was densely wooded with some trees, shrubs and grasses along the banks and up the slopes.

Photos



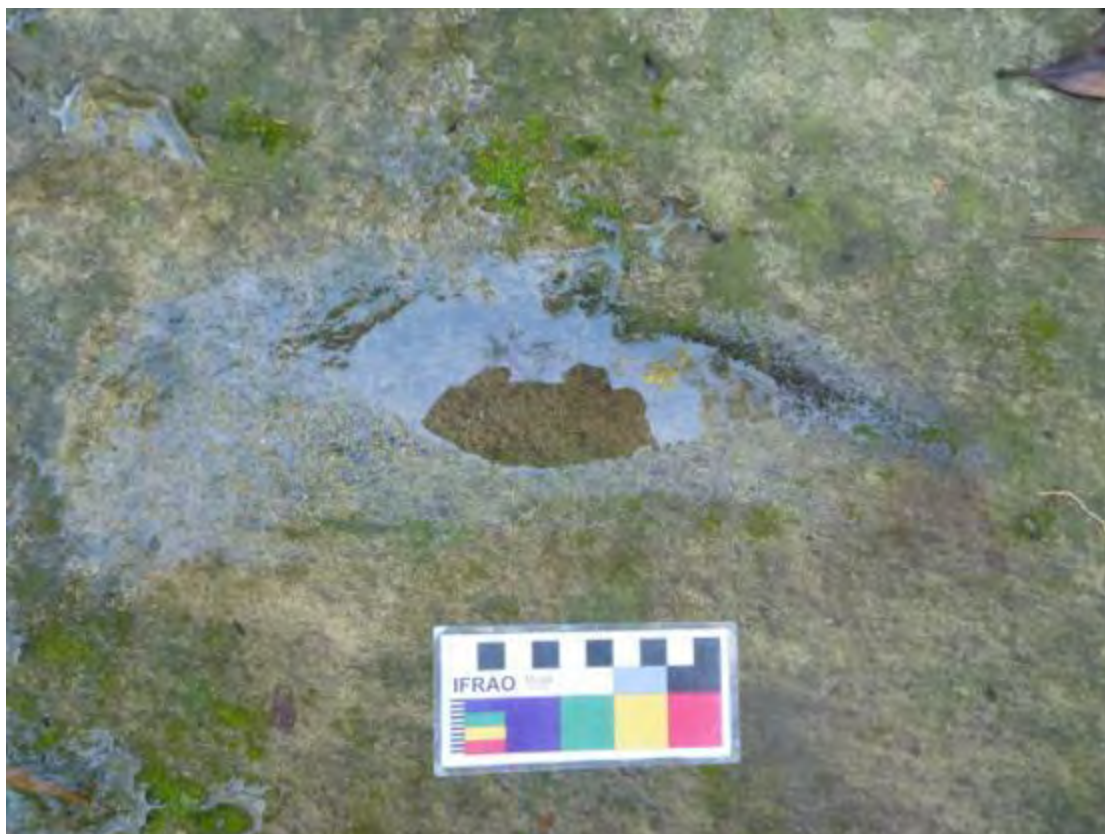
East of Wambo Site 386 to 388 – Stony Creek with pebbles and cobbles in creek bed



Wambo Site 388 View to north west - grinding grooves on rock platform



Wambo Site 388 View of jointed sandstone and boulder lined creek bed and bank



Wambo Site 388 View grinding groove



Wambo Site 388 View grinding groove



Wambo Site 388 View of grinding grooves

Table: Grinding Groove Attributes – Wambo Site 388

ID	Artefact Type	Completeness	Raw Material	Colour	Length (mm)	Width (mm)	Depth (mm)	Details	Location
1	Grinding Groove	Complete	Fine grained sandstone bedrock	U shaped	310	60	10	Groove on fine grained sandstone bedrock	Stony Creek bed
2	Grinding Groove	Complete	Fine grained sandstone bedrock	V shaped	150	30	5	Groove on fine grained sandstone bedrock	Stony Creek bed

Appendix 7

Control & Care Permit 3130 & Consent 2222 (As Amended)



Department of
Environment and Conservation (NSW)

CONSENT #: 2222

NATIONAL PARKS AND WILDLIFE ACT 1974

SECTION 87 and 90

CONSENT TO CARRY OUT THE DESTRUCTION OF AN ABORIGINAL
OBJECT/PLACE AND PERMIT TO COLLECT AND/OR EXCAVATE FOR
THE PURPOSE OF SALVAGE

WHEREAS the Aboriginal objects described in Schedule "A" are situated upon the land described in Schedule "B", and constitute Aboriginal objects within the meaning of Section 90 of the National Parks and Wildlife Act 1974, and WHEREAS application has been made by:

Mr T Sutherland, Project Manager,
Wambo Development Project

of :

Wambo Coal Pty Limited
Golden Highway
WARKWORTH NSW 2330

FOR CONSENT to destroy those objects in the course of: **archaeological salvage and subsequent development of the Wambo Development Project in accordance with the Development Consent issued by the Minister Assisting the Minister for Infrastructure and Planning on 4 February 2004 (DA 305-7-2003-I), Singleton Local Government Area, NSW.**

NOW I, Lisa Corbyn, Director-General of the Department of Environment and Conservation, in pursuance of Section 90 of the said Act, and subject to the conditions hereunder set out DO HEREBY CONSENT to the destruction of the said objects by the said applicant. AND FURTHER, in accordance with the said Conditions and in pursuance of Section 87 of the said Act, I DO HEREBY PERMIT the salvage collection of the said objects from the aforesaid land, prior to destruction of the objects, by the nominated Archaeologists (Navin Officer Heritage Consultants Pty Ltd) and representatives of the Aboriginal community.

TERMS AND CONDITIONS OF THIS CONSENT

This Consent is issued subject to General Terms and Conditions covering all Permits and Consents, as well as the Specific Terms and Conditions pertaining to Consents to destroy Aboriginal objects and any Special Conditions, all of which are detailed in the attached pages.

DATED at COFFS HARBOUR this

20th day of June, 2005.
Gary Owen
Director, North East Branch
Issued for the Director-General of
Department of Environment and Conservation

SCHEDULE A:

Generally, all Aboriginal objects, within the definition of the *National Parks and Wildlife Act 1974*, but excluding human skeletal remains.

This includes, but is not limited to, Aboriginal objects described in Tables 1-3 of the following documentation:

- *Wambo Coal Pty Limited. April 2005. Wambo Development Project, Application for Permit under Section 87 and Consent under Section 90 of the National Parks and Wildlife Act 1974.*

This document was registered with the Department of Environment and Conservation on 28 April 2005 as DOC 05/08179, and is hereafter referred to as 'the Consent Application'.

SCHEDULE B:

The "Application Area", as defined in the text and illustrations of the Consent Application.

SPECIAL CONDITIONS APPLYING TO CONSENTS WITH SALVAGE

1. The Consent Holder shall ensure that no works (ie disturbance and/or the salvage of known Aboriginal objects as described in the Consent Application) are undertaken within the portion of the Application Area that is also the subject of the Application that has been made under Section 10 of the *Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, until such time as the Section 10 Application has been determined by the Commonwealth Minister for Environment and Heritage.
2. The Consent Holder shall ensure that should any human remains be located during ground disturbing works, all work in the vicinity must cease immediately and the NSW Police Department and the Department of Environment and Conservation, North East Branch, be notified immediately. Work must not commence in the vicinity until such time as DEC officers have examined the find and discussed its management.
3. The Consent Holder shall ensure that the Aboriginal heritage salvage program is conducted in accordance with the methods described in Attachment 3 of the Consent Application.
4. Prior to the commencement of the first phase of the salvage program that is described in Attachment 3 of the Consent Application, the Consent Holder shall ensure that a schedule of the Aboriginal objects/sites to be the subject of that phase is provided to the Department of Environment and Conservation. The Consent Holder shall ensure that a similar schedule is provided to the Department of

Environment and Conservation in advance of all subsequent fieldwork phases.

5. The Consent Holder shall ensure that any proposals to modify the salvage methodology are firstly discussed with the Aboriginal community, and have the endorsement of the Department of Environment and Conservation, prior to modifications being implemented. This is of particular relevance to Section 3.4.4 of the salvage methodology described in Attachment 3 of the Consent Application, which details the proposed 'Excavation Program Designed to Test for the presence of Deep Archaeological Deposits'. The Consent Holder shall ensure that the Department of Environment and Conservation is consulted on the "extent, scope and methodology of any follow-on salvage excavations" that may be proposed in the context of Section 3.4.4 of Attachment 3.
6. The Consent Holder shall ensure that the Proposed Management Measures detailed in Table 6 of the Consent Application for Aboriginal objects/sites in the Remnant Woodland Enhancement Programme Areas be undertaken on an as needs basis. Where possible, management measures to be implemented for habitat conservation and/or restoration within these areas are to be undertaken in a manner that minimises impact to Aboriginal cultural heritage and the need to collect and re-locate Aboriginal objects. The Consent Holder shall ensure that these considerations are incorporated within the broader Fauna & Flora Offset Strategy (Conditions 40-41, 44-48 & 51, Schedule 4 of the Development Consent issued on 4 February 2004 for DA 305-7-2003-i).
7. The Consent Holder shall ensure that protocols for the long-term management of Aboriginal objects/sites within the Application Area and Mining Lease generally are incorporated within the broader Environmental Management Strategy for the Wambo Development Project (Condition 1, Schedule 6 of the Development Consent issued on 4 February 2004 for DA 305-7-2003-i).

SPECIFIC CONDITIONS APPLYING TO CONSENT WITH SALVAGE

1. The Consent covers only those Aboriginal objects described in the instrument of Consent and in any Schedules thereto.
2. The Consent is conditional upon all relevant development approvals having been obtained.
3. Should the Aboriginal objects listed in Schedule 'A' above remain in existence five (5) years from the date of this document, the Consent shall be deemed to be void, and any further damage to the Aboriginal objects will require the preparation of a new Consent document.
4. Should any 'object', defined under the Heritage Act of NSW be uncovered, then excavation or disturbance of that area is to stop

immediately and the Heritage Council of NSW is to be informed in accordance with S.146 of the Heritage Act, 1977 (as amended).

The Heritage Council can be contacted on (02) 9635 6155.

An 'object' under the Heritage Act is defined as any deposit, object or material evidence-

- (a) which relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and
 - (b) which is 50 or more years old.
5. The holder of the Consent shall furnish the Department of Environment and Conservation with a report at the completion of the salvage work or expiry of the Consent or any renewal thereof, whichever occurs first. Such report shall include:
- a complete list of all material recovered;
 - a detailed description of the methods of excavation/collection and analysis used;
 - a detailed plan of the site, including the location of collection areas, all trenches, auger holes and spoil heaps;
 - summary of consultation undertaken with relevant Local Aboriginal Land Councils or relevant Aboriginal Community Groups.

GENERAL TERMS AND CONDITIONS

1. Permits and Consents are not transferable.
2. A Permit covers only that area stated in the Permit.
3. A Consent covers only that area stated in the instrument of Consent and in any Schedules thereto.
4. Permits may be revoked at any time at the discretion of the Director-General.
5. Terms and conditions of Permits may be varied at any time at the discretion of the Director-General.
6. The Person to whom the Permit is issued or the Consent granted shall be responsible for the manner in which the work covered by the Permit or Consent is performed.
7. An officer of the Department of Environment and Conservation, acting on the authority of the Director-General, may at any time examine work done or any objects recovered under any Permit or Consent.
8. Permits and Consents are necessary for all activities for which they are issued or granted, but do not in themselves give authority to enter or work on freehold land or leased Crown Land. Permission must be sought from the owner or occupier and arrangements made with him/her.
9. The holder of the Permit or Consent shall furnish, when required to do so, an undertaking to indemnify the Department of Environment and

Conservation against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses in respect of any accident or injury to any person or property which may arise solely out of the existence of any works associated with the Permit or Consent.

10. All reports received in connection with work carried out under a Permit or Consent shall be treated as confidential but the Department of Environment and Conservation shall have the right to copy all such reports, to allow consideration thereof by qualified referees.
11. For a period of five years from the date of issue of the Permit or Consent, the holder of the Permit or Consent may refuse to allow the Department of Environment and Conservation and The Australian Museum, if such information is held by those institutions, to make public any information contained in any report referred to in Condition 10 above, except where it is deemed necessary for management, protection or research reasons. After this period of five years from the date of issue of the Permit or Consent, the Department of Environment and Conservation and The Australian Museum shall have the right to use and authorise the use of information contained in all reports submitted under the Permit or Consent, except where specifically requested by the holder of the Permit or Consent.
12. Upon publication of any information relating to work done under a Permit or Consent, a copy of such publication(s) shall be forwarded to the Department of Environment and Conservation, The Australian Museum, Sydney, and the Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, unless permission to do otherwise has been obtained from the Department of Environment and Conservation.
13. The holder of the Permit or Consent shall consult with the local Aboriginal community regarding the work covered by the Permit or Consent and shall respond to any reasonable request to involve the Aboriginal community in the work.
14. The Department of Environment and Conservation and The Australian Museum may supply copies of relevant reports as furnished by the holder of the permit or Consent to local Aboriginal communities. Upon request by the Department of Environment and Conservation, the holder of the Permit or Consent shall supply a summary of his/her findings with photographs, diagrams, etc., as required, to local Aboriginal communities or other interest local groups.
15. The holder of the Permit or Consent shall keep field records and a copy of all such records shall be lodged with the Department of Environment and Conservation at the termination of each field work period.
16. In the event of a Permit being revoked -
 - a) The Person to whom that Permit was issued shall
 - (i) Furnish an undertaking to indemnify the Department of Environment and Conservation

- against all actions, suits, claims and demands of whatsoever nature, and all costs, charges and expenses in respect of any accident or injury to any person or property which may arise solely out of the existence of any works associated with the Permit;
- (ii) leave the areas, the subject of that Permit, in a condition satisfactory to the Department of Environment and Conservation within two weeks from the date of revocation of that Permit;
 - (iii) furnish the Department of Environment and Conservation within six months from the date of revocation of the Permit, a full report on the work completed at the date of revocation. Such a report shall include a complete list of any material recovered;
 - (iv) deposit any Aboriginal objects removed during work associated with the Permit, together with a copy of all field records, at The Australian Museum or at another place designated by the Museum, after these Aboriginal objects have been fully examined, or within six months from the date of revocation of that Permit whichever occurs sooner.
- (b) The Department of Environment and Conservation and The Australian Museum shall have the right to use and authorise the use of information collected under the Permit.

Our reference: 7 May 2010
Contact: FIL10/533 DOC10/17647
Sarah Paddington 02 4908 6837

Sarah Bailey
Wambo Coal
PMB 1 Singleton
NSW 2330

Dear Ms Bailey,

RE: A request to alter the expiry date for the AHIP #2222

I refer to your correspondence dated the 19 April 2010, to the Department of Environment, Climate Change and Water (DECCW). DECCW understands the AHIP Holder (Wambo Coal) is seeking to extend the expiry date of AHIP #2222 for an additional 5 year period.

It is understood that the extension is required urgently, as AHIP #2222 will expire on the 19 June 2010. It is further understood that the works approved under AHIP #2222 have not yet been completed due to contractual issues between Wambo Coal and the original heritage consultant. These issues had resulted in a delay in finalising requirements stipulated under AHIP #2222.

Wambo has advised DECCW that the documentation detailing the salvage works conducted in 2005 were not provided by the original consultant when the salvaged objects were returned under order by DECCW on 7 March 2010. Therefore, Wambo and their consultant RPS require additional time to review and analyse all relevant salvage programs since 2005, in order to meet the reporting requirements of AHIP #2222.

Wambo and RPS developed a workplan for conducting the remaining salvage works, archiving of the salvage objects, review of the past and contemporary salvage works and the reporting process. Based on the workplan it was concluded that an additional 5 years is required to adequately meet the reporting obligations of the AHIP, but also to ensure relevant outcomes are achieved for the local Aboriginal community, Wambo and the broader archaeological community.

DECCW notes that all local Aboriginal groups associated with AHIP #2222 have provided their full support for the request and further note they support the standard of work being conducted presently by Wambo and their current consultant.

Locked Bag 914, Coffs Harbour NSW 2450
Federation House, Level 7, 24 Moonee Street
Coffs Harbour NSW
Tel: (02) 6651 5946 Fax: (02) 6651 6187
ABN 30 841 387 271
www.environment.nsw.gov.au

Department of **Environment and Climate Change** NSW



On this basis, DECCW will extend the AHIP for an additional 5 years to enable the remaining works to be finalised and reported on. Please find attached the approved Notice of Variation to AHIP #2222. For the amendment to be valid you must attach the amendment to the original AHIP.

If you wish to discuss this matter further please contact Sarah Paddington on (02) 4908 6837.

Yours sincerely

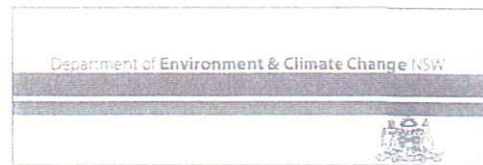


MONICA COLLINS
A/Manager Planning and Heritage Section
Environment Protection and Regulation Group
Department Environment, Climate Change and Water

Aboriginal Heritage Impact Permit

Notice of Variation

National Parks and Wildlife Act 1974 (NPW Act)



BACKGROUND

1. An AHIP #2222 was issued to Wambo Coal Pty Ltd on the 20 June 2005 by the Department of Environment, Climate Change and Water (DECCW) under sections 87 and 90 of the *National Parks and Wildlife Act 1974 (NPW Act)*.
2. The original heritage consultant engaged conducted part of the works under this AHIP, however, differences of opinions of the contractual arrangements halted any further works from proceeding.
3. In 2010 Wambo Coal Pty Ltd provided documentation to DECCW of their unsuccessful attempts to meet the conditions of the AHIP and for gaining care and control of the salvaged artefacts back from the original consultants.
4. DECCW contacted the consultants holding the objects, with instructions to return them to the location stipulated in AHIP #2222. The salvaged objects were returned to Wambo Coal Pty Ltd on xx date, however, no documentation or reporting of the salvage works were provided with the return of the salvaged objects.
5. Wambo Coal Pty Ltd appointed another consultant to finalise the works under AHIP #2222. In an effort to collate, analyse and sort through the salvage process and objects to complete the reporting process required under AHIP #2222, Wambo Coal and their consultant requested additional time be granted.
6. On the 19 April 2010, Wambo Coal Pty Ltd requested the Director-General of the DECCW to extend the period of AHIP #2222 for an additional 5 years.
7. DECCW understands that none of the original salvage reporting or documentation was provided, therefore, to adequately report on the process, additional time is required.
8. Wambo Coal Pty Ltd has conducted consultation with the local Aboriginal groups and has received full support from each representative.

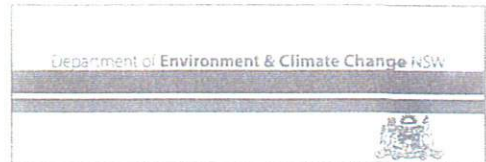
NOTICE OF VARIATION

I, Monica Collins, Acting Manager Planning and Aboriginal Heritage Section, North East Branch of the Department of Environment, Climate Change and Water (DECCW), as the Director-General of DECCW's delegate, vary the terms and conditions of the AHIP #2222 issued to Wambo Coal Pty Ltd on the 20 June 2005 as follows:

Aboriginal Heritage Impact Permit

Notice of Variation

National Parks and Wildlife Act 1974 (NPW Act)



Variation 1 -

Wherever AHIP #2222 refers to being valid for a period of 5 years, this is now taken to be mean AHIP #2222 is valid for a period of 10 years (expiring on the 19 June 2015).

This variation must be attached to the original AHIP for the variations to be valid.

A handwritten signature in blue ink, appearing to read "Monica Collins".

Monica Collins
A/Manager North Coast Region
Environment Protection and Regulation Group
Department Environment, Climate Change and Water
Friday, 7 May 2010

Issue of Aboriginal Heritage Impact Permit

National Parks and Wildlife Act 1974 (NPW Act)



**Office of
Environment
& Heritage**

Your reference: Consent 2222 Variation Application
Our reference: AHIMS No. 2222 / FIL12/7057
Notice number: 1132267
Contact: Roger Mehr, 6773 7005.

WAMBO COAL PTY LIMITED,
Trading as WAMBO COAL PTY LTD,
ABN 13 000 668 057,
PMB 1,
SINGLETON NSW 2330
STANDARD POST

NOTICE OF THE ISSUE OF ABORIGINAL HERITAGE IMPACT PERMIT AHIMS #2222

Issued pursuant to section 90C(4) of the *National Parks and Wildlife Act 1974*

BACKGROUND

- A. WAMBO COAL PTY LIMITED trading as WAMBO COAL PTY LTD (the applicant) applied to the Office of Environment and Heritage, Department of Premier and Cabinet (OEH) under section 90A of the *National Parks and Wildlife Act 1974* (NPW Act) for an Aboriginal Heritage Impact Permit (AHIP). The AHIP variation application was in relation to variation of AHIP #2222 to include a small number of Aboriginal objects not covered by the existing AHIP.
- B. OEH received the application on 18-Mar-2013 and further information was received on 03-June-2013.

ISSUE OF ABORIGINAL HERITAGE IMPACT PERMIT VARIATION

- 1. OEH has considered the application and supporting information provided, and matters under section 90K of the NPW Act and has decided to issue an AHIP Variation (Variation #1132265) subject to conditions.
- 2. The AHIP Variation is attached.
- 3. You should read the AHIP Variation carefully and ensure you comply with its conditions.

It is an offence under section 90J NPW Act to fail to comply with the conditions of the AHIP. The maximum penalty that a court may impose on a corporation for failing to comply with this AHIP is \$1.1m. OEH can also issue penalty notices for this offence.

Issue of Aboriginal Heritage Impact Permit

National Parks and Wildlife Act 1974 (NPW Act)



Office of
Environment
& Heritage

Mr Richard Bath

Unit Head

North East - Hunter

(by Delegation)

Date: 02-Aug-2013

INFORMATION ABOUT THIS NOTICE

- Details provided in this notice will be available on OEH's Public Register in accordance with section 188F of the National Parks and Wildlife Act 1974.

Variation of this AHIP

- This AHIP may only be varied on application by the AHIP holder or by OEH to correct typographical errors or resolve inconsistencies between conditions of the AHIP. A permit can only be varied by subsequent variation notices.

Appeals against this decision

You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

Variation of Aboriginal Heritage Impact Permit



Office of
Environment
& Heritage

National Parks and Wildlife Act 1974 (NPW Act)

Our reference: AHIMS No. 2222 / DOC13/9706
Notice number: 1132265
Contact: Roger Mehr, 6773 7005

WAMBO COAL PTY LIMITED,
Trading as WAMBO COAL PTY LTD,
ABN 13 000 668 057,
PMB 1,
SINGLETON NSW 2330

NOTICE OF VARIATION OF ABORIGINAL HERITAGE IMPACT PERMIT NO. 2222

Issued pursuant to section 90D(5) *National Parks and Wildlife Act 1974*

BACKGROUND

- A. WAMBO COAL PTY LIMITED trading as WAMBO COAL PTY LTD (the applicant) applied to the Office of Environment and Heritage, Department of Premier and Cabinet (OEH) to vary Aboriginal Heritage Impact Permit No. 2222 (the AHIP) granted under section 90D *National Parks and Wildlife Act 1974* (NPW Act). The AHIP authorises the carrying out of the destruction of an Aboriginal object/place and permit to collect and/or excavate for the purpose of salvage.
- B. OEH received the application on 18-Mar-2013.
- C. OEH has considered the matters set out in section 90K of the NPW Act.

VARIATION OF ABORIGINAL HERITAGE IMPACT PERMIT

- 1. OEH has decided to grant this variation. By this notice OEH varies AHIP Number 2222 in the following manner:

Variation 1.

Schedule B on Page 2 of 6 of AHIP 2222 defines the AHIP area, which reads:

"The "Application Area", as defined in the text and illustrations of the Consent Application".

is replaced by:

"The "Application Area", as defined in the text and illustrations of the AHIP variation application which appears as Attachment 1 of this Notice of Variation".

Variation of Aboriginal Heritage Impact Permit



Office of
Environment
& Heritage

National Parks and Wildlife Act 1974 (NPW Act)

2. You must provide a copy of this AHIP variation notice to each Registered Aboriginal Party referenced in AHIP Number 2222, within 14 days.

Mr Richard Bath

Unit Head

North East - Hunter

(by Delegation)

Date: 02-Aug-2013

INFORMATION ABOUT THIS VARIATION NOTICE

- Details provided in this notice will be available on OEH's Public Register in accordance with section 188F of the NPW Act.
- You should read this Variation Notice carefully and ensure that you continue to comply with all conditions of the original AHIP 2222 issued on 20 June 2005, as amended by this Variation Notice. The format of this Variation Notice requires that it must be read in conjunction with the original AHIP.

When this notice begins to operate

- The variations to the AHIP specified in this notice begin to operate immediately from the date of this Variation Notice, unless another date is specified in this notice.

Variation of this notice

- This Variation Notice may only be varied by subsequent notices issued by OEH.

Appeals against this decision

- You can appeal against this decision to the Land and Environment Court. The deadline for lodging the appeal is 21 days after the date that this notice was issued.

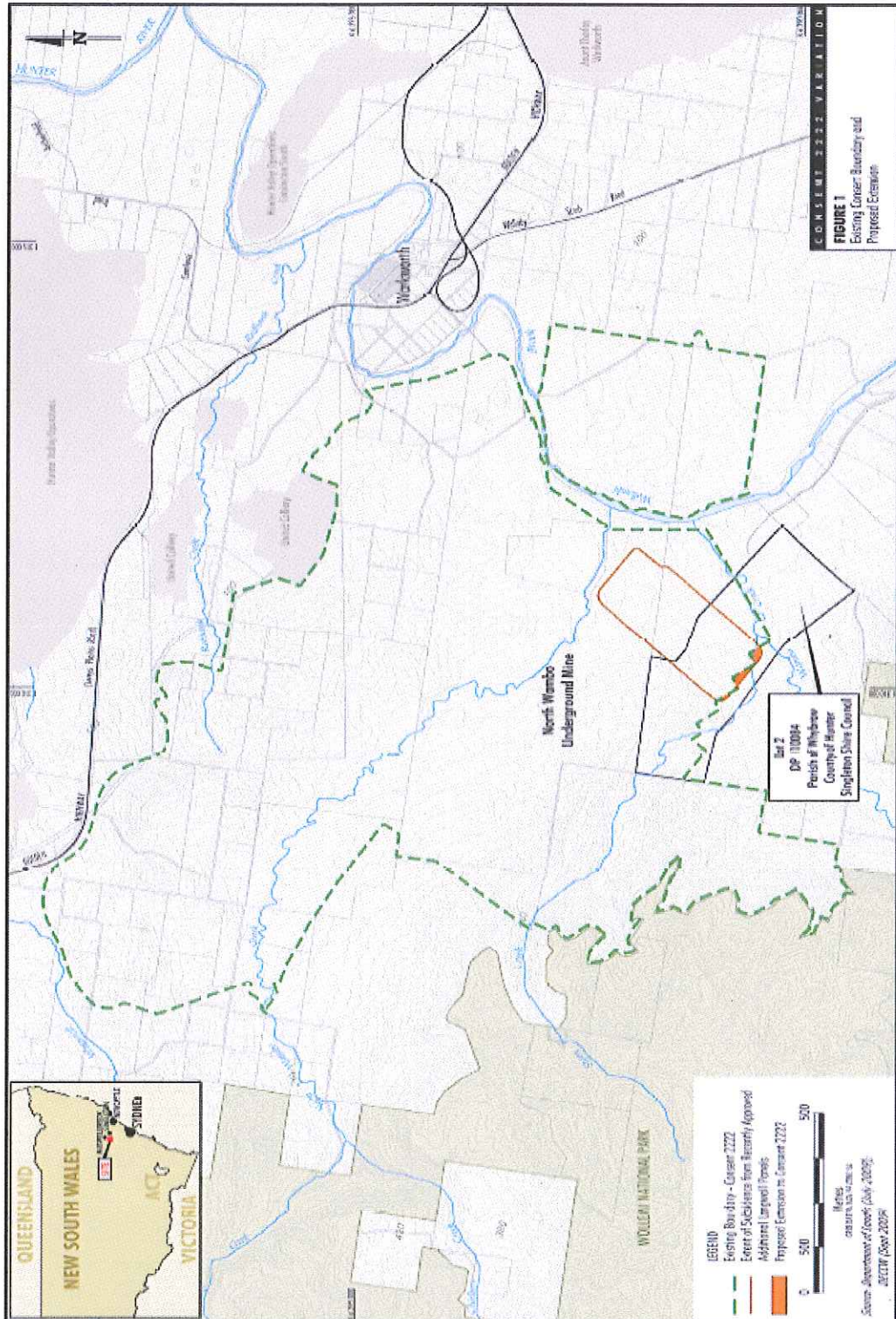
Variation of Aboriginal Heritage Impact Permit



Office of
Environment
& Heritage

National Parks and Wildlife Act 1974 (NPW Act)

Attachment 1 Boundary of AHIP2222 showing the area added in the variation notice #1132265.



Variation of Aboriginal Heritage Impact Permit



Office of
Environment
& Heritage

National Parks and Wildlife Act 1974

Your reference: Variation to AHIP # 2222 & Care Agreement # 3130
Our reference: AHIMS No. 2222 / DOC15/93564
Notice number: C0000980
Contact: Nicole Davis, 0409 394 343

NOTICE ISSUED TO

Wambo Coal Pty Limited
Trading as Wambo Coal Pty Limited
PMB 1
SINGLETON NSW 2330

NOTICE OF VARIATION OF ABORIGINAL HERITAGE IMPACT PERMIT NO. 2222 & CARE AGREEMENT No. 3130

Issued pursuant to section 90D (5) & 87 (1) *National Parks and Wildlife Act 1974* (NPW Act)

BACKGROUND

- A. Wambo Coal Pty Limited (the applicant) applied to the Office of Environment and Heritage (OEH) to vary Aboriginal Heritage Impact Permit No. 2222 (the AHIP) granted under section 90D of the NPW Act. The AHIP authorises consent to carry out the destruction of an Aboriginal object/place and permit to collect and/or salvage excavate for the purpose of salvage.
- B. There is also a concurrent Care Agreement No. 3130 (the CA) granted under section 87 (1) of the NPW Act, which is in place to manage all Aboriginal objects associated with AHIP # 2222 and AHIP # 2805. In order to ensure that all necessary works are completed and Aboriginal objects appropriately managed, the applicant is also seeking to extend the life of the current Care Agreement bringing it into line with the AHIP.
- C. The applicant, is seeking changes to the AHIP & CA timeframes as the current AHIP (# 2222) & CA (# 3130) expires 19 June 2015, however, the Wambo Coal Mine is approved to March 2025 for a mine life of 21 years (from the date of commencement of Development Consent [DA 308-7-2003]). On this basis, the applicant is seeking an extension to the time period of the existing AHIP & CA for a period of an additional 10 years from the current date of expiry, to allow all necessary works outlined in the current AHIP to be undertaken at the Wambo Coal Mine. OEH supports the extension of the life of both the AHP & CA until 1 March 2025.
- D. The applicant is also seeking the inclusion of additional areas of land. The subsidence assessment prepared for the Modification concluded that *subsidence effects may extend slightly beyond the boundary* of the existing AHIP # 2222, approximately 50 metres. The Aboriginal Cultural Heritage Impact Assessment prepared (by RPS Australia East Pty Ltd March 2015) for the Modification identified no additional sites not already included within the current AHIP. On this basis, the applicant proposes that a minor variation to the existing consent boundary is necessary to include the extent of subsidence for Longwall 10A (where it extends outside of the existing consent boundary) and possible impacts to previously unrecorded sites and/or their subsurface expression. OEH supports the inclusion of additional areas of land.

Variation of Aboriginal Heritage Impact Permit



Office of
Environment
& Heritage

National Parks and Wildlife Act 1974

- E. OEH received the application on 19 March 2015 and a variation to the application was received via email on 20 April 2015.
- F. OEH has considered the matters set out in section 90K of the NPW Act.

VARIATION OF ABORIGINAL HERITAGE IMPACT PERMIT & CARE AGREEMENT

1. OEH has decided to grant this variation. By this notice OEH varies AHIP No. 2222 & CA No. 3130 in the following manner:

AHIP Variation 1

Wherever AHIP # 2222 refers to being valid for a period of 5 years, this is now taken to be AHIP # 2222 is valid for a period of 21 years, to bring the AHIP timeframe inline with the life of Wambo Coal Mine, DA 308-7-2003 (expiring 1 March 2025).

AHIP Variation 2

Schedule B on Page 2 of 6 of AHIP # 2222 defines the AHIP area, which reads:

"The "Application Area", as defined in the text and illustrations of the Consent Application".

Is replaced by:

"The 'Application Area', as defined in the text and illustrations of the AHIP variation application which appears as Attachment 1 (page 4) of this Notice of Variation. The additional area of land to be covered by the AHIP includes Part Lot 2 DP 110084 and Part Lot 83 DP 548749 in the Parish of Whybrow, County of Hunter within the Singleton Shire Council local government area".

CA Variation 3

Wherever CA # 3130 refers to being valid for a period of 5 years, this is now taken to be CA # 3130 is valid for a period of 21 years, to bring the CA timeframe inline with the life of Wambo Coal Mine, DA 308-7-2003 (expiring 1 March 2025).

Note: You must provide a copy of this AHIP variation notice to each Registered Aboriginal Party referenced in AHIP # 2222 & CA # 3130, within 14 days.

Variation of Aboriginal Heritage Impact Permit

National Parks and Wildlife Act 1974



Office of
Environment
& Heritage

RICHARD BATH

Senior Team Leader Planning, Hunter Central Coast Region

Regional Operations

(By Delegation)

Date: 29 April 2015

INFORMATION ABOUT THIS VARIATION NOTICE

- Details provided in this notice will be available on OEH's Public Register in accordance with section 188F of the NPW Act.
- You should read this Variation Notice carefully and ensure that you continue to comply with **all** conditions of the original **AHIP # 2222** & **CA # 3130** issued on 20 June 2005, **as amended** by this Variation Notice. The format of this Variation Notice requires that it must be read in conjunction with the original AHIP & CA.

When this notice begins to operate

- The variations to the AHIP & CA specified in this notice begin to operate immediately from the date of this Variation Notice, unless another date is specified in this notice.

Variation of this notice

- This Variation Notice may only be varied by subsequent notices issued by OEH.

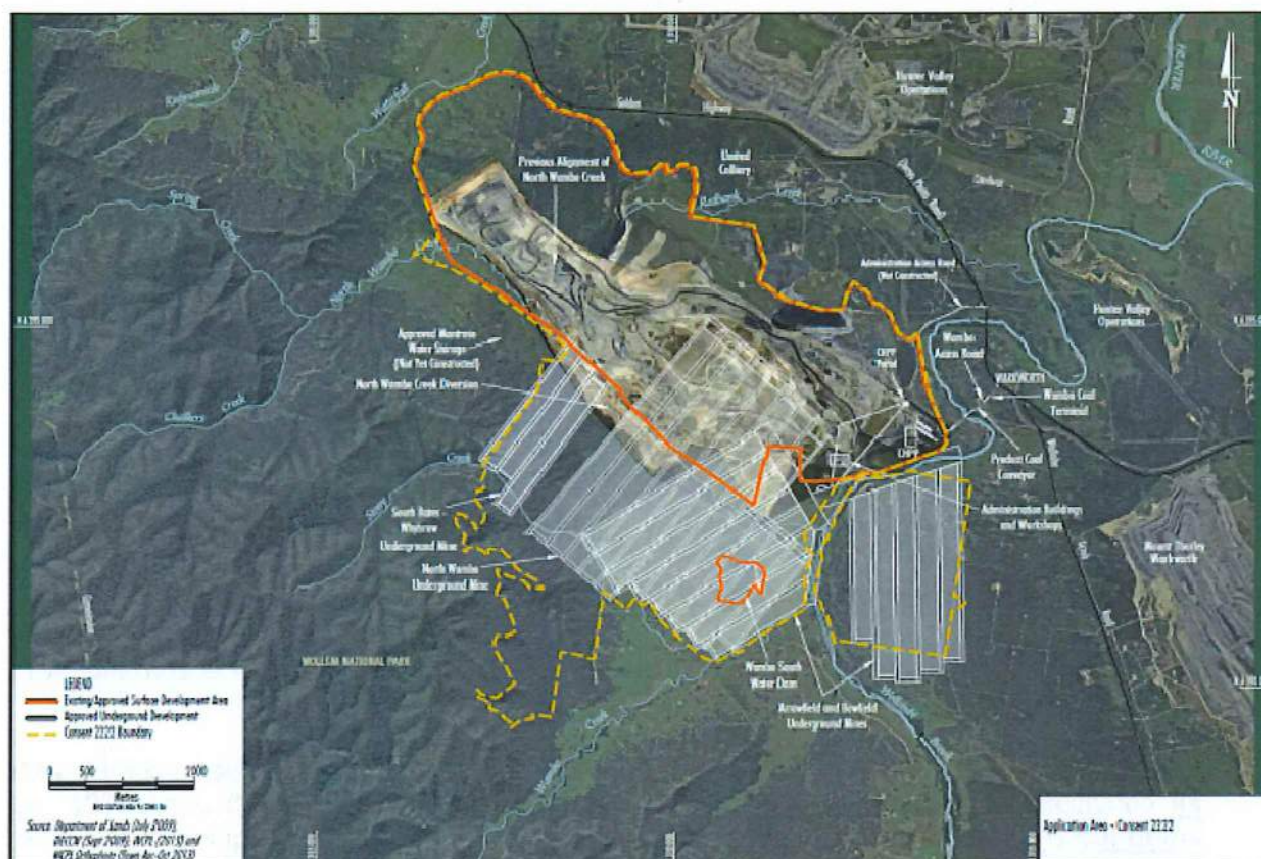
Appeals against this decision

- You can appeal against this decision to the Land and Environment Court. The deadline for lodging the appeal is 21 days after the date that this notice was issued.

National Parks and Wildlife Act 1974



The lands to which AHIP # 2222 applies (including the additional lands to be included within AHIP # 2222) is shown outlined in yellow and referred to as Notice # C0000980.





Environment, Climate Change & Water

C&C Permit:

#3130

AHIP Permits:

#2222 & 2085

NATIONAL PARKS AND WILDLIFE ACT 1974

SECTION 87(1)

PERMIT FOR CUSTODY AND CONTROL OF ABORIGINAL OBJECTS SALVAGED
UNDER ABORIGINAL HERITAGE IMPACT PERMITS (AHIP) #2085 and #2222 IN
ACCORDANCE WITH SECTION 87/90 OF THE NPW ACT 1974.

Permit issued to: **Sarah Bailey**
WAMBO COAL PTY. LTD.
ABN No. 13 000 668 057

Address: **Wambo Coal Mine**
Jerry's Plains Rd
Warkworth NSW 2330

Authority is hereby given for the organisation named above to have custody and control of the Aboriginal cultural objects listed below:

1. All objects salvaged from the 257 Sites and 16 Potential Archaeological Deposits listed in AHIP #2222 issued by DECCW on 20 June 2005 (as specified in *Wambo Coal Pty Ltd. April 2005. Wambo Development Project, Application for Permit under Section 87 and consent under Section 90 of the National Parks and Wildlife Act 1974.* – refer Tables 1, 2 and 3)
2. All objects salvaged from the 25 Sites as listed in AHIP #2085 issued by DECCW on 14 December 2004.

TERMS AND CONDITIONS OF THIS PERMIT:

This Permit is issued subject to General Terms and Conditions (see over) pertaining to every Permit for Custody and Control. This Permit is also subject to any Specific Conditions which are also detailed hereunder.

Dated at Grafton this 2 day of March, 2010.

Brett Nudd

A/Manager North Coast Region
North East Branch

Issued on behalf of the Director-General of Department of Environment, Climate
Change and Water



Environment, Climate Change & Water

C&C Permit:

#3130

AHIP Permits:

#2222 & 2085

General Terms and Conditions

1. Permits are not transferable.
2. A Permit covers only that area, or those objects, stated in the Permit
3. A Permit covers only that area stated in the instrument and in any Schedules thereto.
4. Permits may be revoked at any time at the discretion of the Director-General of DECCW.
5. Terms and conditions of Permits may be varied at any time at the discretion of the Director-General of DECCW.
6. The Person to whom the Permit is issued shall be responsible for the manner in which the work covered by the Permit is performed.
7. An officer of the Department of Environment, Climate Change and Water, acting on the authority of the Director-General, may at any time examine work done or any objects recovered under any Permit.
8. Permits are necessary for all activities for which they are issued or granted, but do not in themselves give authority to enter or work on freehold land or leased Crown Land. Permission must be sought from the owner or occupier and arrangements made with him/her.
9. The holder of the Permit shall furnish, when required to do so, an undertaking to indemnify the DECCW against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses in respect of any accident or injury to any person or property which may arise solely out of the existence of any works associated with the Permit.
10. The DECCW shall have the right to copy all such reports prepared under DECCW Permits, to allow consideration thereof by qualified referees.
11. For a period of five years from the date of issue of the Permit, the holder of the Permit may refuse to allow the DECCW to make public any information contained in any report referred to in Condition 10 above, except where it is deemed necessary for management, protection or research reasons.

After this period of five years from the date of issue of the Permit, the DECCW shall have the right to use and authorise the use of information contained in all reports submitted under the Permit, except where specifically requested by the holder of the Permit.
12. Upon publication of any information relating to work done under a Permit, a copy of such publication(s) shall be forwarded to the DECCW, north east branch.



Environment, Climate Change & Water

C&C Permit:

#3130

AHIP Permits:

#2222 & 2085

13. The holder of the Permit shall consult with the local Aboriginal community regarding the work covered by the Permit and shall respond to any reasonable request to involve the Aboriginal community in the work.
14. The DECCW may supply copies of relevant reports as furnished by the holder of the Permit to local Aboriginal communities. Upon request by the Service, the holder of the Permit shall supply a summary of his/her findings with photographs, diagrams, etc., as required, to local Aboriginal communities or other interested local groups.
15. The holder of the Permit shall keep field records and a copy of all such records shall be lodged with the DECCW at the termination of each field work period if requested.
16. The holder of the Permit shall notify the local office of the DECCW at the commencement and completion of fieldwork, and shall supply to District officers details of field work programs and results if requested.
17. In the event of a Permit being revoked -
 - a) The Person to whom that Permit was issued shall
 - (i) Furnish an undertaking to indemnify the DECCW against all actions, suits, claims and demands of whatsoever nature, and all costs, charges and expenses in respect of any accident or injury to any person or property which may arise solely out of the existence of any works associated with the Permit;
 - (ii) leave the areas, the subject of that Permit, in a condition satisfactory to the DECCW within two weeks from the date of revocation of that Permit;
 - (iii) furnish the DECCW within six months from the date of revocation of the Permit, a full report on the work completed at the date of revocation. Such a report shall include a complete list of any material recovered.
 - (iv) deposit any Aboriginal objects removed during work associated with #2222 and #2085, together with a copy of all field records, at The Australian Museum or at another place designated by the Museum, within 1 month from the date of the revocation of that Permit.
 - (b) The DECCW shall have the right to use and authorise the use of information collected under the Permit.

Specific Terms and Conditions

1. Aboriginal objects are to be stored securely by the Permit holder as described in the application dated 23 February 2009 (Job Reference 25586451) and registered with DECCW as DOC09/30002 in FIL09/8301.
2. The Permit holder is to notify DECCW in writing within 7 days of relocation of the Aboriginal objects under Condition 1.
3. Should Aboriginal objects be loaned out for an educational or display purpose, the responsibility for the safe keeping still rests with the Permit holder.
4. The Aboriginal objects may not be moved to a new location without the approval of the Director-General of DECCW. If it is proposed to transfer custody and control, the intended recipient must forward an application for a Custody and Control Permit prior to the transfer taking place.
5. Access to the Aboriginal objects is to be provided to bona fide researchers and organisations.
6. Access under condition 5 must be approved by the Permit holder.
7. Site cards must be submitted and registered with the DECCW Aboriginal Heritage and Information System (AHIMS) for the following sites prior to the relocation of any objects within them under this Permit. It is the responsibility of the Permit holder to obtain confirmation from the DECCW that registration has occurred.

Wambo Sites 23, 47, 48, 74, 77-80, 85-97, 108, 113, 116, 154 and 166.

Please also note:

- a. Sites 98 (37-5-0186), 102-105 (37-5-0183), 117-120 (37-5-0173, 37-5-0488, 37-5-0489, 37-5-0490) and 122-126 (37-5-0172) listed on AHIP Permit #2222 and Sites JP5 to 31 (37-6-1434 to 37-6-1450) listed on AHIP Permit #2085 as being unregistered at the time are now confirmed by DECCW as being registered and subject to this Permit.
- b. It is a requirement under Section 91 of the NPW Act that all outstanding Aboriginal Sites discovered are registered with the DECCW.
8. All Potential Archaeological Deposits (PADs) listed in Table 2 of AHIP # 2222 are to be registered as Sites (if not already) in AHIMS, in the event that any objects associated with them are or already have been discovered.
9. This Permit is valid for five years from the date of signature by the Director-General's delegate or until such time as AHIP #2222 is varied to address the temporary storage of objects or a permanent location for the objects is agreed with the Aboriginal Working Group and approved by the DECCW whichever is the sooner.

Appendix 8

Extract of Aboriginal Assessment Section from the Subsidence Assessment (MSEC, 2015)

6.4.4. Power and Telecommunications Cables

There are direct buried 11 kilovolt (kV) powerlines, optical fibre and copper telecommunications cables which are located to the north-east of the finishing ends of the proposed longwalls. The locations of these cables are shown in Drawing No. MSEC693-12. The cables are owned by WCPL and are used for the mining operations.

The cables are predicted to experience less than 20 mm additional vertical subsidence resulting from the extraction of the proposed WMLW14 to WMLW16. It is unlikely, therefore, that the cables would experience adverse impacts, resulting from the proposed mining in the Wambo Seam, even if the predictions were exceeded by a factor of 2 times.

6.4.5. The Proposed Montrose East Dam

The proposed Montrose East Dam is located outside the Study Area, at a distance of 350 metres north-west of WMLW14, at its closest point to the proposed longwalls. The location of this approved dam is shown in Drawing No. MSEC693-12. At this distance, the dam is predicted to experience less than 20 mm vertical subsidence and is not expected to experience any measurable tilts, curvatures or strains. It is unlikely that the dam would be adversely impacted by the proposed mining, even if the predictions were exceeded by a factor of 2 times.

6.5. Archaeological Sites

6.5.1. Descriptions of the Archaeological Sites

There are no lands within the Study Area declared as an Aboriginal Place under the *National Parks and Wildlife Act 1974*. There are nine archaeological sites which have been identified within the Study Area which are shown in Drawing No. MSEC693-12. A summary of these archaeological sites is provided in Table 6.1 below.

Table 6.1 Archaeological Sites within the Study Area

Site Reference	Location	Description
296	Above WMLW14	Grinding Groove
297	Above WMLW14	Isolated Find
382	Above WMLW14	Artefact Scatter
383	Above WMLW14	Artefact Scatter
384	Above the tailgate of WMLW14	Isolated Find
385	Above WMLW15	Artefact Scatter
386	90 metres south of the commencing end of WMLW16	Grinding Groove
387	Above the commencing end of WMLW16	Grinding Groove
388	60 metres south-west of the commencing end of WMLW15	Grinding Groove

Further details on the archaeological sites are provided in the report by RPS (2015).

6.5.2. Predictions for the Archaeological Sites

The predicted total conventional subsidence, tilts and curvatures for the archaeological sites within the Study Area are provided in Table D.01, in Appendix D. The values have been provided after the completion of the approved WYLW11 to WYLW13 and after the completion of the proposed WMLW14 to WMLW16 (i.e. the cumulative movements due to both the Whybrow and Wambo Seams). The additional parameters due to the extraction of WMLW14 to WMLW16 only (i.e. due to the mining in the Wambo Seam only) are also provided in this table.

A summary of the maximum predicted total subsidence, tilts and curvatures for the archaeological sites is provided in Table 6.2. The values in this table are provided after the completion of the Whybrow Seam (i.e. WYLW11 to WYLW13) and after the completion of the Wambo Seam (i.e. WMLW14 to WMLW16, which also includes the movements due to the Whybrow Seam).

Table 6.2 Maximum Predicted Total Subsidence, Tilts and Curvatures for the Archaeological Sites Resulting from the Extraction of WYLW11 to WYLW13 and WMLW14 to WMLW16

Location	Seam	Maximum Predicted Total Subsidence (mm)	Maximum Predicted Total Tilt (mm/m)	Maximum Predicted Total Hogging Curvature (km^{-1})	Maximum Predicted Total Sagging Curvature (km^{-1})
Artefact Scatters	After Whybrow	1,900	35	1.5	1.5
	After Wambo	4,000	55	1.5	1.5
Isolated Finds	After Whybrow	800	20	0.4	0.2
	After Wambo	2,300	35	0.6	0.2
Grinding Grooves	After Whybrow	1,600	20	0.5	0.5
	After Wambo	3,600	40	0.6	1.0

The maximum predicted additional subsidence movements for the artefact scatters and isolated finds, due to the extraction of the proposed WMLW14 to WMLW16 only, are 2,100 mm vertical subsidence, 20 mm/m tilt, 0.2 km^{-1} hogging curvature and 0.1 km^{-1} sagging curvature. The maximum predicted additional subsidence movements for the grinding groove sites are 2,000 mm vertical subsidence, 20 mm/m tilt, 0.1 km^{-1} hogging curvature and 0.5 km^{-1} sagging curvature.

The archaeological sites are at discrete locations and, therefore, the most relevant distributions of strain are the maximum strains measured in individual survey bays. The analysis of strain in survey bays during the extraction of the previous longwalls in the Hunter Coalfield is discussed in Section 4.4.1.

Non-conventional movements can also occur and have occurred in the NSW Coalfields as a result of, among other things, anomalous movements. The analysis of strains provided in Chapter 4 includes those resulting from both conventional and non-conventional anomalous movements.

6.5.3. Impact Assessments for the Artefact Scatters and Isolated Finds

There are three sites within the Study Area comprising artefact scatters, being Sites 382, 383 and 385. There are also two sites within the Study Area comprising isolated finds, being Sites 297 and 384.

The maximum predicted total tilts are 55 mm/m (i.e. 5.5 %, or 1 in 18) for the artefact scatters and 35 mm/m (i.e. 3.5 %, or 1 in 29) for the isolated finds. It is unlikely that these sites would experience adverse impacts resulting from the mining induced tilts.

The maximum predicted total curvatures for the artefact scatters are 1.5 km^{-1} hogging and sagging, which represents a minimum radius of curvature of 0.7 kilometres. The maximum predicted total curvatures for the isolated finds are 0.6 km^{-1} hogging and 0.2 km^{-1} sagging, which represent minimum radii of curvatures of 1.7 kilometres and 5 kilometres, respectively.

The mining induced curvatures and strains could result in surface cracking in the vicinity of the sites which are located directly above the proposed longwalls. It is unlikely, however, that the scattered artefacts or isolated finds themselves would be adversely impacted by the surface cracking. It is possible, however, that if remediation of the surface was required after mining, that these works could potentially impact these sites.

It is recommended that WCPL seek the required approvals from the appropriate authorities, in the event that remediation of the surface is required in the locations of the artefact scatters and isolated finds.

Further assessments of the potential impacts on the artefact scatters and isolated finds are provided in a report by RPS (2015).

6.5.4. Impact Assessments for the Grinding Grooves

There are four grinding groove sites located within the Study Area, being Sites 296, 386, 387 and 388.

Site 296 is located directly above the proposed WMLW14 and Site 387 is located directly above the commencing end of the proposed WMLW16. Both these sites are also located above the approved longwalls in the overlying Whybrow Seam. The maximum predicted total curvatures for these sites are 0.6 km^{-1} hogging and 1.0 km^{-1} sagging, which represent minimum radii of curvatures of 1.7 kilometres and 1 kilometre, respectively. It is likely that fracturing and buckling of the bedrock would develop in the vicinity of Sites 296 and 387 due to mining in the Whybrow and Wambo Seams.

The site investigation (RPS, 2015) identified that the grinding groove at Site 296 is located on a small boulder within the stream alignment. It is considered unlikely that fracturing would occur at this grinding groove as it is located next to an unrestrained edge of the boulder. The potential for adverse impacts on Site 296, therefore, has been assessed as *unlikely*. The potential for impact at this site due to the mining of the proposed WMLW14 to WMLW16 is considered to be similar to the potential for impact due to the mining of the approved WYWL11 to WYWL13, i.e. does not change the risk category of the potential impacts.

The grinding groove at Site 387 is located on a rock platform. It is difficult to assess the likelihood of impact on this site itself, as there are many factors which cannot be quantified, such as the in situ stress, inclusions and existing weaknesses with the bedrock. The potential for adverse impacts on Site 387 has been assessed as *possible* (i.e. greater than 25 %). The potential for impact at this site due to the mining of the proposed WMLW14 to WMLW16 is considered to be similar to the potential for impact due to the mining of the approved WYWL11 to WYWL13, i.e. does not change the risk category of the potential impacts.

Site 388 is located 60 metres south-west of the commencing end of the proposed WMLW15 and immediately adjacent to the commencing end of the approved WYWL12. The maximum predicted total curvatures for this site are 0.1 km^{-1} hogging and 0.02 km^{-1} sagging, which represent minimum radii of curvatures of 10 kilometres and 50 kilometres, respectively. It is possible that fracturing of the bedrock could develop in the vicinity of this site due to mining in the Whybrow Seam, with further fracturing due to mining in the Wambo Seam. The potential for adverse impacts on Site 388 has been assessed as *unlikely*.

Site 386 is located 90 metres south of the commencing end of the proposed WMLW16 and 70 metres south of the commencing end of the approved WYWL13. The maximum predicted total curvatures for this site are less than 0.01 km^{-1} hogging and sagging, which represents a minimum radius of curvature greater than 100 kilometres. It is unlikely that fracturing of the bedrock would develop in the vicinity of this site due to mining in both the Whybrow and Wambo Seams. The potential for adverse impacts on Site 386 has been assessed as *very unlikely*.

The potential for impacts on Sites 386 and 388 only slightly increase, as a result of the proposed modification, as these sites are located outside the extents of the proposed longwalls. The potential for adverse impacts would still be considered *unlikely* for Site 388 and *very unlikely* for Site 386 based on the Approved Layout, i.e. does not change the risk category of the potential impacts.

Further assessments of the potential impacts on the grinding groove sites are provided in a report by RPS (2015).

6.6. State Survey Control Marks

The locations and details of the state survey control marks were obtained from the *Land and Property Management Authority* using the *Six Viewer* (2014). There were no state survey control marks identified within or in the immediate vicinity of the Study Area. There were state survey control marks identified further afield, at distances greater than 1.5 kilometres from the longwalls.

The survey control marks located in the area could be affected by far-field horizontal movements, up to 3 kilometres outside the extents of the longwalls. Far-field horizontal movements and the methods used to predict such movements are described further in Sections 4.5 and B.4.

It will be necessary on the completion of the longwalls, when the ground has stabilised, to re-establish any survey control marks that are required for future use. Consultation between WCPL and the Department of Lands will be required to ensure that these survey control marks are reinstated at the appropriate time, as required.

Table D.01 - Maximum Predicted Subsidence Parameters for the Archaeological Sites within the Study Area

Site Reference	Type	Predicted Total Subsidence due to the Approved WYLW11 to WYLW13 (mm)	Predicted Total Subsidence due to the Approved WYLW11 to WYLW13 and the Proposed WMLW14 to WMLW16 (mm)	Incremental Change in Subsidence due to the Proposed WMLW14 to WMLW16 (mm)	Predicted Total Tilt due to the Approved WYLW11 to WYLW13 (mm/m)	Predicted Total Tilt due to the Approved WYLW11 to WYLW13 and the Proposed WMLW14 to WMLW16 (mm/m)	Incremental Change in Tilt due to the Proposed WMLW14 to WMLW16 (mm/m)	Predicted Total Hogging Curvature due to the Approved WYLW11 to WYLW13 (1/km)	Predicted Total Hogging Curvature due to the Approved WYLW11 to WYLW13 and the Proposed WMLW14 to WMLW16 (1/km)	Incremental Change in Hogging Curvature due to the Proposed WMLW14 to WMLW16 (1/km)	Predicted Total Sagging Curvature due to the Approved WYLW11 to WYLW13 (1/km)	Predicted Total Sagging Curvature due to the Approved WYLW11 to WYLW13 and the Proposed WMLW14 to WMLW16 (1/km)	Incremental Change in Sagging Curvature due to the Proposed WMLW14 to WMLW16 (1/km)
296	Grinding Groove	1600	3600	2000	20	40	20	0.50	0.50	0.00	0.50	1.00	0.50
297	Isolated Find	800	2300	1500	20	35	15	0.30	0.40	0.10	0.20	0.20	0.00
382	Artefact Scatter	1900	4000	2100	35	55	20	1.50	1.50	0.00	1.50	1.50	0.00
383	Artefact Scatter	850	1700	850	30	50	20	0.90	1.00	0.10	0.60	0.60	0.00
384	Isolated Find	250	650	400	10	20	10	0.40	0.60	0.20	0.20	0.20	0.00
385	Artefact Scatter	1200	2900	1700	20	35	15	0.30	0.50	0.20	0.20	0.30	0.10
386	Grinding Groove	< 20	25	< 20	< 0.5	1	< 0.5	< 0.01	< 0.01	0.00	< 0.01	< 0.01	0.00
387	Grinding Groove	1000	1500	500	20	30	10	0.50	0.60	0.10	0.30	0.40	0.10
388	Grinding Groove	150	350	200	2	5	3	0.05	0.10	0.05	0.02	0.02	0.00

Maximum	1900	4000	2100	35	55	20	1.50	1.50	0.20	1.50	1.50	0.50
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