



**Office of
Environment
& Heritage**

Our reference: DOC15/470480-2
Contact: Robert Gibson, 4927 3154

Ms Genevieve Seed
Planning Officer, Resource Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Seed

RE: GREATER RAVENSWORTH AREA TAILINGS PIPELINE MODIFICATION ENVIRONMENTAL ASSESSMENT

I refer to your email dated 18 November 2015 seeking comments on the Environmental Assessment (EA) for the Greater Ravensworth Area Tailings Pipeline. The Office of Environment and Heritage (OEH) understands that project occurs on three separate projects: Ravensworth East Mine (DA 53-03-99 MOD 7), Ravensworth Operations Project (MP 09_0176 MOD 3), and Liddell Mine (DA 305-11-01 MOD 6).

The project is for the construction of 11 kilometres of tailings pipeline to connect the Ravensworth Complex and Liddell Colliery coal handing and preparation plants, with the West Pit Void at Ravensworth East. It includes the construction of a flocculent plant near the West Pit Void, and interim storage of mine water for the Greater Ravensworth Area in the Narama Mine void.

OEH has reviewed the EA for this project in relation to Aboriginal cultural heritage and threatened biodiversity. The EA included sufficient detail on Aboriginal cultural heritage matters but did include a complete assessment of impacts on threatened biodiversity, specifically by omitting any reference to biodiversity offsetting policy and offsetting requirements. OEH has therefore assessed this proposal using the 'OEH principles for the use of biodiversity offsets in NSW' which was in effect when the original consents or subsequent modifications, or both, were issued. OEH's assessment is that this project will require a biodiversity offset. Further details and recommended conditions of approval are provided in **Attachment 1**.

If you require any further information regarding this matter, please contact Robert Gibson, Regional Biodiversity Conservation Officer, on 4927 3154.

Yours sincerely

8 DEC 2015

RICHARD BATH
Senior Team Leader Planning, Hunter Central Coast Region
Regional Operations

Enclosure: Attachment 1

ATTACHMENT 1: REVIEW OF THE ENVIRONMENTAL ASSESSMENT FOR THE GREATER RAVENSWORTH AREA TAILING PIPELINE MODIFICATION (DA 53-03-99 MOD 7, MP 09 0176 MOD 3 & DA 305-11-01 MOD 6) WITH RECOMMENDED CONDITIONS OF APPROVAL

OEH has undertaken a review of the report 'Greater Ravensworth Area Tailings Pipeline Modification Environmental Assessment for Glencore Coal Pty Limited, November 2015', prepared by Hansen Bailey Environmental Consultants. The review of the EA was in relation to possible impacts of the proposed development on Aboriginal cultural heritage and threatened biodiversity. OEH's comments and recommended conditions of consent are provided below:

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

OEH has reviewed the 'Aboriginal Due Diligence Assessment, Greater Ravensworth Tailings Pipeline, Singleton Local Government Area, November 2015, prepared by OzArk Environmental & Heritage Management Pty Ltd, prepared for Ravensworth Operations (Glencore)'. This review was undertaken with respect to Aboriginal cultural heritage that may be impacted by the proposed development modifications to; Ravensworth Operations (PA 09-0176), Liddell Coal Operations (DA 305-11-01) and Ravensworth East (DA 52-03-99) planning approvals. OEH makes the following comments and recommendations.

OEH notes that a field inspection of the Study Area took place on 9 July 2015 by an archaeologist from OzArk. No new sites of Aboriginal heritage were recorded and two areas of archaeological sensitivity were identified. OEH further notes Section 2 of the Study Area was assessed at a desktop level only.

OEH supports the report's recommendations, which are included with the standard recommended conditions of approval for Aboriginal cultural heritage (see below). OEH further supports the recommendation in the EA that should unexpected finds occur then the current Aboriginal Cultural Heritage Management Plan is to be followed. OEH has no additional concerns with respect to Aboriginal cultural heritage and the development modifications proceeding.

Recommended Conditions of Approval for Aboriginal Cultural Heritage:

1. The proponent must consult with and involve all the registered local Aboriginal parties for the project, in the ongoing management of the Aboriginal cultural heritage values. Evidence of this consultation must be collated and provided to the consent authority upon request.
2. The proponent must update the existing Aboriginal Cultural Heritage Management Plan for the project area in consultation with the registered Aboriginal parties to detail procedures for managing all Aboriginal cultural heritage values associated with the project area. This process must be undertaken prior to commencing any ground disturbance or development works subject to the development.
3. In the event that ground disturbance locates previously unidentified Aboriginal object/s within the project area, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and representatives of the local Aboriginal community must be contacted to determine the nature, extent and significance of the finds. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) and the management outcome for the site included in the information provided to AHIMS. The proponent must consult with representatives of the local Aboriginal community, and the archaeologist to develop an appropriate management strategy for all objects/sites which complies with the requirements of the *National Parks and Wildlife Act 1974*.
4. If any human remains are located, all works must halt in the immediate area to prevent any further impacts to the remains. The NSW Police are to be contacted immediately. No action is to be undertaken until the NSW Police provide written notification to the proponent. If the skeletal remains are identified as Aboriginal, the proponent must contact OEH's Environment Line on 131 555 and representatives of the local Aboriginal community. No works are to continue until OEH provides written notification to the proponent.
5. All Aboriginal sites impacted by the project must have an Aboriginal Site Impact Recording form completed and be submitted to OEH's AHIMS Register within three months of being impacted.
6. An Aboriginal Cultural Education Induction Program must be developed for the induction of all personnel and contractors involved in the construction activities on site. Records are to be kept of which

staff/contractors were inducted and when for the duration of the project. The program should be developed and implemented in collaboration with the registered Aboriginal parties.

7. That the Modification may proceed without further archaeological investigation following that:
 - a) No impacts from the Modification should occur outside of the areas assessed for this project; and that;
 - b) No impacts from the Modification should occur within Sensitive Areas 1 and 2. To ensure that there are no inadvertent impacts to these areas, temporary fencing should be erected during construction at the following locations; along the northern and southern boundaries of the Modification for the length of Sensitive Area 1; and along the northern boundary of the Modification for the length of Sensitive Area 2.
8. That sites Nardell N2 (37-3-0491) and Nardell N4 (37-3-0492) should be protected by taking the following precautions:
 - a) Existing fencing at the sites should be visible and intact;
 - b) Signage should be erected at regular intervals along the fencing of these sites to clearly identify that these areas are not to be entered; and
 - c) The workforce should be inducted with the information that these areas are not to be entered.

THREATENED BIODIVERSITY ASSESSMENT

OEH has reviewed the EA in relation likely impacts on threatened biodiversity by this project, particularly the flora and fauna assessment which were presented in Appendix B of the EA (Forest Fauna Surveys Pty Ltd & Eastcoast Flora Survey, 2015). It is acknowledged that the development footprint for the proposed pipeline and flocculation plant is small. OEH estimates that this project will clear about 14 hectares (ha) of vegetation, including some areas of remnant woody vegetation, and involve some soil disturbance.

The EA was primarily based on a site inspection undertaken on 4 August 2015, consideration of previous environmental reports for the area, and running the seven-part assessment of significance (DEC, 2007) on available data. From this the EA recommended mitigation measures to ensure that the pipeline does not form a barrier to fauna in key areas both during construction and during operation. The site inspection identified areas of endangered ecological community (EEC) vegetation and threatened species habitat, however, the EA found the impact on threatened biodiversity would not be significant and thus recommended no biodiversity offsets. There was no discussion of biodiversity offsetting policy nor the offer of any offsets despite this being part of previous consents for the three component projects (see Table 1, below).

Table 1. Component project dates of consent and use of biodiversity offsetting policy.

Project	DA	Consent Granted	Biodiversity Offset Policy applied to project, including previous MODs
Ravensworth East Mine	DA 53-03-99	2 July 2000	13 offsetting principles applied to (withdrawn) MOD 5
Ravensworth Operations Project	MP 09-0176	11 Feb 2011	13 Biodiversity Offsetting Principles applied to initial consent
Liddell Mine	DA 305-11-01	20 Nov 2002	13 Biodiversity Offsetting Principles applied to MOD 5.

For consistency with previous consents for this proposal, OEH considered the current modification application in light of the 'OEH principles for the use of biodiversity offsets in NSW' (OEH, 2014a), including running a BioBanking Credit Calculator assessment (OEH, 2014b) to quantify any likely offsetting obligation. These are discussed further below.

Potential impact on threatened biodiversity

The EA contained few details on local threatened flora, fauna, populations or vegetation communities. However, some additional details were provided by Eastcoast Flora Survey (Dr Stephen Bell, pers. comm., 30 November 2015). A desk top analysis was conducted of available spatial data using Arc GIS using a 10

metre buffer width of disturbance for the pipeline. This generated a development footprint of about 14.3 ha from which mapped vegetation layers (Ravensworth East to Ravensworth Coal Handling and Processing Plant (CHPP) – provided by Eastcoast Flora, and Peake (2006) for the pipeline branch to the Liddell CHPP) were clipped to 14.3 ha pipeline disturbance area polygon. The results are shown in Table 2 (below). The proposed flocculation plant would be constructed in derived native grassland which does not include any vegetation communities in the impact area that could be considered to be EECs, and so was not considered further for this part of the assessment.

Table 2. Mapped vegetation communities within 5 metres of the proposed pipeline.

Vegetation Community (and PCT)	Area Within Pipeline Disturbance Area (ha)	BioBanking Ecosystem Credits
Central Hunter Box – Ironbark Woodland (EEC)*	1.6	124
Central Hunter Ironbark – Spotted Gum – Grey Box Forest (EEC)*	0.8	78
Derived Grassland	6.0	358
Disturbed Ground (non-native vegetation)	3.7	0
Planted Vegetation (non-native vegetation)	0.2	0
Central Hunter Box - Ironbark Woodland - Regrowth (EEC)	0.3	
Riparian River Oak Forest (HU714) GW	0.03	0
Riparian Swamp Oak Forest	0.11	0
TOTAL	12.74	560

* from Peake (2006) mapping, all else from Eastcoast Flora Survey.

The pipeline area includes about 2.7 ha of EEC vegetation. This comprises about 1.9 ha of Central Hunter Grey Box – Ironbark Woodland in the New South Wales North Coast and Sydney Basins Bioregions EEC vegetation and about 0.8 ha of Central Hunter Ironbark – Spotted Gum – Grey Box Forest in the New South Wales North Coast and Sydney Basins Bioregions EEC.

The EA (Table 3 in Appendix B) considered impacts of the proposed development on habitat for 16 locally-recorded or potentially-occurring threatened fauna species. Of these the proposed development appears likely to directly impact on ten of them: Spotted Harrier (*Circus assimilis*), Little Eagle (*Hieraaetus morphnoides*), Eastern Grass Owl (*Tyto longimembris*), Speckled Warbler (*Chthonicola sagittata*), Grey-crowned Babbler (*Pomatostomus temporalis temporalis*), Spotted-tailed Quoll (*Dasyurus maculatus*), Grey-headed Flying-fox (*Pteropus poliocephalus*), Eastern Freetail-bat (*Mormopterus norfolkensis*), Eastern Bentwing-bat (*Miniopterus schreibersii oceansis*), and Greater Broad-nosed Bat (*Scoteanax rueppellii*). The site inspection occurred in August when the Vulnerable Pine Donkey Orchid (*Diuris tricolor*) is not flowering. While the survey would not have been able to detect plants of this species, based on previous studies for the area it appears that this orchid is not present here.

The project therefore appears to have an offsetting obligation based on approximately 2.7 ha of EEC vegetation in the development footprint and vegetation that provides habitat for at least ten threatened fauna species.

The Statement of Commitments in the EA includes a commitment to replace any River Oak cleared by this project. OEH can see the benefit of this strategy, particularly given knowledge of how drainage lines form movement corridors for threatened fauna, particularly the Spotted-tailed Quoll. OEH recommends that any replanting is done on a known ratio. Ideally any such replanting is done to adjacent to other revegetation projects to increase the effectiveness of all such works.

BioBanking Assessment

In order to inform the size and nature of any biodiversity offset required for this project OEH ran the BioBanking Credit calculator (version 4.0) on available data. No vegetation quadrats were conducted for this project, so assumptions were made that ten site value scores for woody remnant vegetation zones were within the benchmark range, and that for derived native grasslands that site value scores for woody components were primarily below benchmark values. The assessment generated 560 ecosystem credits to be retired, but no threatened species credits (shown in Table 2, above).

Biodiversity Offset Obligation

This project has a biodiversity offsetting requirement as per the biodiversity offsets policy in place for earlier consents issued for each of the three component projects. Commensurate with the scale of the proposed development this offset obligation is not large. The biodiversity offsetting package would need to be prepared in accordance with OEH's 13 biodiversity offsetting principles (OEH, 2014b).

OEH considers that this project may be approved provided it includes a biodiversity offsetting package. Recommended conditions for approval are provided below and include the provision of a 10:1 replacement ratio for any River Oaks cleared. The EA proposed the replacement of River Oaks without specify a quantum.

Recommended Conditions of Approval for Threatened Biodiversity:

1. That the proponent provide a biodiversity offset package that meets the requirements of the 'OEH principles for the use of biodiversity offsets in NSW' (OEH, 2014a); and
2. That the proponent plants ten River Oak (*Casuarina cunninghamiana* subsp. *cunninghamiana*) trees along the bank of Bowmans Creek for each River Oak plant removed during construction of the tailings pipeline.

References:

DEC (2007) *Threatened species assessment guidelines: The assessment of significance*. NSW Department of Environment and Conservation, Sydney. www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf

Forest Fauna Surveys Pty Ltd & Eastcoast Flora Survey (2015) *Ravensworth Operations: Ecological Assessment Tailings Pipeline: Ravensworth Operations to Mt Owen Complex. Report to Ravensworth Operations Pty Limited. 10 November 2015*. Forest Fauna Surveys Pty Ltd & Eastcoast Flora Survey, Adamstown Heights & Kotara. http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7393

OEH (2014a) *OEH principles for the use of biodiversity offsets in NSW*. 8 September 2014. NSW Office of Environment and Heritage, Sydney. www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm

OEH (2014b) *BioBanking Assessment Tool*. 9 December 2014. NSW Office of Environment and Heritage, Sydney. www.environment.nsw.gov.au/biobanking/tools.htm

Peake, T.C. (2006) *The Vegetation of the central Hunter Valley, New South Wales. A report on the findings of the Hunter Remnant Vegetation Project*. Hunter-Central Rivers Catchment Management Authority, Paterson

OEH – DECEMBER 2015

