Our ref: DOC19-1038596
Senders ref: MP06_0168-Mod-7

Andrew Rode
Department of Planning Industry and Environment
GPO Box
SYDNEY NSW 2000

Via email: andrew.rode@planning.nsw.gov.au

18 December 2019

Dear Mr Rode

**Subject: Snapper Mine Northern Extension - Modification 7**

Thank you for your email dated 27 November 2019 about the Snapper Mine Northern Extension - Modification 7 seeking comments from the Biodiversity and Conservation Division of the Department of Planning, Industry and Environment (the Department).

The Biodiversity and Conservation Division has statutory responsibilities relating to biodiversity (including threatened species, populations, ecological communities, or their habitats), Aboriginal cultural heritage and flooding. Please refer matters relating to protected areas to the National Parks and Wildlife Service.

We have reviewed the documents supplied and note the following key points. Detailed comments are provided in **Attachment A**.

The Biodiversity and Conservation Division is satisfied that the proposed modification will not result in an increased impact on biodiversity values.

We concur with the findings of the archaeological assessment that there are no known Aboriginal cultural heritage values present, and the recommendation of no associated constraints. We recommend the report by Cupper (2019) be updated to contain survey data.

We also request clarification on various aspects of the hydrogeological assessment.

If you have any questions about this advice, please contact Simon Stirrat, Senior Conservation Planning Officer, via rog.southwest@environment.nsw.gov.au or 03 5021 8930

Yours sincerely

Andrew Fisher
**Senior Team Leader Planning**
**South West Branch**
**Biodiversity and Conservation Division**
**Department of Planning, Industry and Environment**

ATTACHMENT A Detailed comments on Snapper Mine Northern Extension - Mod 7

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### Biodiversity

Although the proponent has not formally requested a BDAR waiver, the Biodiversity and Conservation Division is satisfied that the modification will not increase the impact on biodiversity values.

The change to the development footprint, and reduction in developable area, constitutes an improvement in the project design in terms of resultant biodiversity impacts. The areas covered by the existing development approval that are proposed to be relinquished have already been assessed and the biodiversity assessment report provides an adequate assessment of the biodiversity values in the chenopod communities in the mine extension area. In addition, the modification will not result in an increase to the biodiversity offset requirement.

We are also satisfied that the demonstrated performance of revegetation at this site (unhindered by drought conditions) will mean chenopod areas should be readily restored in the longer term.

### Aboriginal cultural heritage (ACH)

Tronox proposes to extend the existing Snapper Mine (06_0168) and associated infrastructure outside of the current approved development area. As part of the planning and approval processes, an archaeological assessment was undertaken by Cupper (2019). A pedestrian surface survey was undertaken and no Aboriginal objects were located in the proposed activity area. The report made recommendations:

1. That the modification be allowed to proceed.
2. There is a contingency for if human remains are discovered, which is consistent with *Coroners Act 2009* and *National Parks and Wildlife Act 1974*.
3. The Cultural Heritage Management Plan (CHMP) remain in force for the life of the Snapper Mine and define procedures and management for ACH
4. ACH training and induction for the CHMP for onsite employees and contractors continue
5. Tronox continue involvement of Registered Aboriginal Parties in ACH matters pertaining to the Modification.

Consultation has been ongoing, and documented in Cupper (2019: 10 - 12) is compliant with s60 of the *National Parks and Wildlife Regulation 2019*.

The report does not include survey transects, or grid co-ordinates as required under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010). We recommend that the report be updated with this information, consistent with requirements 5 and 9 of the Code of Practice.

### Hydrogeology

The Snapper Mineral Sands Project potentially affects the Western Murray Porous Rock and Lower Darling Alluvium groundwater sources. Tronox currently holds appropriate share components (units or ML) in the Western Murray Porous Rock Water Source for the Snapper and Ginkgo Mines. Volumes extracted for the Snapper Mine appear to be within their licenced allocations.

We note the following in reviewing the Hydrogeological Review (Appendix F):

- Clarify the accuracy of the statements regarding the depth of the “groundwater table” in the 2019 Hydrogeology Report (suggested to be *approximately 30 m below the surface)*; especially since the 2007 Hydrogeology Report stated “*The nearby lake floor levels in this area are about RL 41 m to 45 m AHD giving a depth to saline groundwater of about 5 m to 10 m.”*

- No sampling or monitoring of stygofauna appears to have been conducted in the area. It is possible that stygofauna exist in aquifers at depths of 5 m to 10 m and/or localised freshwater lenses over the denser, more saline groundwater. Please clarify.
- Groundwater level monitoring could be improved by the installation of water pressure loggers measuring at daily or sub-daily intervals.
- Presentation of groundwater level and quality data would benefit by adopting a presentation of *within mine footprint bores* in the same graph as *outside mine footprint bores* (i.e. a reference vs putative impact comparison).
- There appears to be a relatively poor correlation between groundwater monitoring and modelling results. Further review/refinement of the groundwater model could be beneficial in addressing this.
- The 2019 Hydrogeology Report provided no discussion of the Snapper Mine reverse osmosis plant or its management, which we consider to be an omission. In particular, no details are provided on brine treatment, volumes, storage or disposal and its potential effects on the environment (to surface water, groundwater or soils). Please clarify.