



Report and recommendations of the Environmental Protection Authority



**Cooljarloo Mine - Falcon Extension
proposal – inquiry under s46 of the
Environmental Protection Act 1986
to amend Ministerial Statement 790**

Tronox Management Pty Ltd

Report 1512

June 2014

ENVIRONMENTAL PROTECTION AUTHORITY
REPORT AND RECOMMENDATIONS TO THE MINISTER FOR
ENVIRONMENT

**COOLJARLOO MINE – FALCON EXTENSION PROPOSAL - MINISTERIAL
STATEMENT 790 - INQUIRY UNDER SECTION 46 OF THE
ENVIRONMENTAL PROTECTION ACT 1986 – AMENDMENT TO
CONDITION 7 (ASSESSMENT NO. 1999)**

The Minister for Environment has requested (21 January 2014) that the Environmental Protection Authority (EPA) inquire into and report on the matter of changing the implementation conditions relating to the Cooljarloo Mine – Falcon Extension proposal.

The following is the EPA's Report and Recommendations to the Minister pursuant to section 46(6) of the *Environmental Protection Act 1986*.

Background

The proposal is to develop the Falcon Extension at the Cooljarloo Mineral Sands Mine in the Shire of Dangaragan. The EPA originally assessed the proposal at the level of Environmental Protection Statement and considered the following key environmental factors relevant to the proposal required detailed evaluation in its report and recommendations to the Minister:

- Flora and Vegetation;
- Groundwater; and
- Rehabilitation and Closure

The EPA concluded that, having particular regards to the:

- proponent rehabilitating all disturbed areas back to native bushland;
- re-establishment of Declared Rare Flora (DRF) and priority vegetation species to original locations; and
- recommended condition 8 which requires the proponent to achieve stable, self-sustaining and functioning landforms which are compatible with the surrounding landscapes;

the proposal could be managed to meet the EPA's environmental objectives for these factors.

The then Minister for Environment approved the proposal for implementation, subject to the implementation conditions of Ministerial Statement 790 in March 2009.

Requested changes to conditions

The proponent for the proposal, Tronox Management Pty Ltd, has requested the following changes to the implementation conditions of Ministerial Statement 790:

- Amend condition 7 in its entirety to remove condition 7-1 and its references to trigger levels for groundwater drawdown.

Assessment of the proposed change to conditions

The EPA considers that condition 7-1 should be deleted as requested. This is based on the fact that mining operations have ceased, including dewatering activities, and the pits have been backfilled, removing the potential for acid sulphate soils to be exposed to oxidising agents and thus contaminate groundwater sources.

Furthermore, the proponent commissioned a detailed report with regards to overall vegetation health (*Monitoring of Potential Groundwater Drawdown Impacts on Vegetation at Falcon - 2013*, Woodman Environmental Consulting) which found that 2011/12 results indicated that the vegetation was showing signs of recovery, after a minor decline in 2008, in response to improving groundwater levels post-mining.

It is important to note that with regards to the impacts on priority vegetation and declared rare flora, an earlier report by Woodman Environmental Consulting concluded that while there were declines in health in these populations, 'the results suggest that there has been no effect of groundwater drawdown on the Declared Rare Flora (T-DRF) or Priority Flora.' and that it was unlikely that declines in health were associated with drawdown impacts, but were a result of natural factors, including declining rainfall and natural vegetation succession.

EPA conclusion(s) and recommendation(s)

Having inquired into this matter, the EPA submits the following recommendations to the Minister for Environment:

1. Amend condition 7 in its entirety to remove condition 7-1 and Schedule 2 – Table 3 to which it refers; and
2. After complying with section 46(8) of the *Environmental Protection Act 1986*, the Minister issues a statement of decision to change implementation condition 7 of Statement 790 in the manner provided for in the attached recommended statement.

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL
(PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

COOLJARLOO MINE – FALCON EXTENSION APPROXIMATELY 10 KILOMETRES
NORTH-WEST OF CATABY SHIRE OF DANDARAGAN

Proposal: The extension of open pit mining of mineral sands by dredging and dry mining adjacent to existing operations. Existing dry mining and processing practices, plant and equipment will be used. Approximately 3.1 million tonnes of ore will be extracted, slurried and processed by the dry mine concentrator to extract heavy mineral concentrate for transporting to the Chandala facilities.

The proposal is further documented in Schedule 1 of Ministerial Statement 790

Proponent: Tronox Management Pty Ltd (ACN: 085 223 570)

Proponent Address: 1 Sleat Road, Applecross WA 6153

Assessment Number: 1999

Previous Assessment Number: 1749

Report of the Environmental Protection Authority: Report 1512

Previous Report of the Environmental Protection Authority: Report 1299

Previous Statement Number: Ministerial Statement 790

The implementation of the proposal to which the above report of the Environmental Protection Authority relates is subject to the conditions and procedures contained in Ministerial Statement No. 790, as amended by the following:

Schedule 2 is deleted and replaced with a revised Schedule 2; and

Condition 7 of Ministerial Statement 790 is deleted and replaced with:

7 Groundwater Drawdown

7-1 At all times, the proponent shall ensure that the limit of groundwater drawdown in the proposal area and in the vicinity of the proposal area does not approach

the potentially acid-forming substrate to the extent that acidic waters are generated and/or released.

- 7-2 At all times, the proponent shall ensure that groundwater drawdown from mining does not impact on the hydrology of the Mount Jetty Creek system.
- 7-3 The proponent shall monitor groundwater from bores indicated in Figure 4 (attached to Ministerial Statement 790) to facilitate determination of whether the requirements of conditions 7-1 and 7-2 are being met. This monitoring is to be carried out to the satisfaction of the CEO*.
- 7-4 The proponent shall submit annually the results of the monitoring of groundwater required by condition 7-3 to the CEO.
- 7-5 The proponent shall provide proposed management measures to the CEO in the event that the requirements of conditions 7-1 and/or 7-2 are not met or are not likely to be met.
- 7-6 To avoid doubt, nothing in this approval is taken to approve the generation or exposure of acid sulphate soils or the discharge of acidic waters to the environment.

* The CEO is the Chief Executive Officer of the Department of the Public Service which is responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate.

[Signed xxx]

**HON ALBERT JACOB MLA
MINISTER FOR ENVIRONMENT; HERITAGE**

Schedule 2

Cooljarloo Mine – Falcon Extension

Table 1: GPS locations of *Andersonia gracilis* populations relevant to the Tronox Cooljarloo Falcon Proposal.

Population reference in Figure 3	Spatial Reference (MGA Zone 50)		Relevance (% areas are only approximate)
	Easting (m)	Northing (m)	
C	338070	6617659	50% of area within 50m of clearing
	338119	6617692	
	338224	6617524	
	338182	6617502	
D	338290	6617548	50% of area within 50m of clearing
	338385	6617382	
	338231	6617432	
E	338448	6617542	50% of area within 50m of clearing
	338774	6617460	
	338751	6617351	
	338407	6617452	
F	338880	6615650	10% of area within 50m of clearing, 90% to be cleared
	339110	6615658	
	339111	6615572	
	338892	6615572	
G	339340	6615236	5% of area within 50m of clearing
	339587	6615370	
	339626	6615317	
	339373	6615179	
H	342277	6616315	80% of area within 50m of clearing and 10% of area to be cleared
	342402	6616372	
	342454	6616252	
	342319	6616197	

Table 2: GPS locations of *Andersonia gracilis* individuals relevant to the Tronox Cooljarloo Falcon Proposal

Relevance	Spatial Reference (MGA Zone 50)		Tronox ID
	Easting (m)	Northing (m)	
To be cleared	339628	6615561	144
Within 50m of footprint	338807	6616104	282