

Statement of Reasons

TERRITORY IRON PTY LTD – YARRAM IRON ORE PROJECT

PROPOSAL

Territory Iron Pty Ltd (the Proponent) submitted the Notice of Intent (NOI) for the Yarram Iron Ore Project (the Proposal) to the Northern Territory Environment Protection Authority (NT EPA) on 8 May 2018 for consideration under the *Environmental Assessment Act* (EA Act).

The Proposal is to develop, operate and rehabilitate an open cut iron ore mine at a site located 7 km north-west of Batchelor and 107 km south from Darwin, Northern Territory. Two pits would be mined consecutively over 18 years; stage 1 pit mined in years 1–12 and stage 2 pit mined in years 12-18. Ore would be processed (crushing and screening) onsite at a rate of 0.5-1.2 million tonnes per annum and the ore transported by road to the Darwin Port for export. The Proposal would include the following components:

- 170 ha clearing of vegetation and removal of topsoil
- two open cut pits (stage 1 pit - 760 m (L) x 460 m (W) x 70 m (D) & stage 2 pit - 960 m (L) x 550 m (W) x 25 m (D))
- 20 km unsealed haul road and internal access roads, hardstands and drainage structures
- waste rock, raw, product and low grade ore stockpiles
- potential wet beneficiation plant if feasible in year 12 of operations
- administration offices, workshop and power generation
- reshaping and revegetation of disturbed areas to create a stable, vegetated landform.

The Proposal has an estimated maximum annual water requirement of 450 megalitres per annum to be used for production. The workforce (25-45 construction personnel; 48 operation personnel) would be sourced locally. The Proposal covers freehold land including aboriginal land held by the Finniss River Aboriginal Land Trust.

The proposal has been referred under the *Environment Protection and Biodiversity Conservation Act* 1999.

CONSULTATION

The NOI has been reviewed as a notification under the EA Act in consultation with Northern Territory Government (NTG) advisory bodies (see Attachment A) and the responsible Minister, in accordance with clause 8(1) of the Environmental Assessment Administrative Procedures.

JUSTIFICATION

The Notice of Intent was assessed against the NT EPA's environmental factors and objectives.

1. Terrestrial flora and fauna

Objective: Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.

The Proposal has been subject to past exploration and small-scale mining activity but the proposed disturbance footprint has not been mined previously. The potential impacts and risks to terrestrial flora and fauna associated with the Proposal include:

- Direct removal or loss of habitat through clearing, and indirect habitat loss or degradation from dust, weed spread, changed fire regime and altered water quality and flow. Suitable habitat for the following threatened species is likely to occur on the site:
 - northern quoll (*Dasyurus hallucatus* – Endangered Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act), Critically Endangered Territory Parks and Wildlife Conservation Act (TPWC Act))
 - black-footed tree-rat (*Mesembriomys gouldii gouldii* – Endangered EPBC Act, Vulnerable TPWC Act)
 - partridge pigeon (*Geophaps smithii smithii* – Vulnerable, EPBC Act and TPWC Act)
 - fawn antechinus (*Antechinus bellus* – Endangered EPBC Act, Vulnerable TPWC Act)
 - masked owl (*Tyto novaehollandiae kimberli* – Vulnerable EPBC Act and TPWC Act) (Suitable breeding or nesting trees (diameter breast height >40cm)).
- Direct removal or loss of sensitive or significant vegetation (~ 28 ha of monsoon vine thicket) through clearing, and indirect loss or degradation from dust, weed spread, changed fire regime and altered water quality and flow.
- Direct removal of *Cycas armstrongii* (Vulnerable – TPWC Act).

2. Terrestrial environmental quality

Objective: Maintain the quality of land and soils so that environmental values are protected.

The potential impacts and risks to terrestrial environmental quality associated with the proposal include:

- Impacts to land and soils due to the uncertainty around the availability, quantity and quality of materials (including cover materials) proposed for construction, operation and rehabilitation of the Proposal.
- In the absence of a draft Mine Closure Plan there is uncertainty how successful rehabilitation (geotechnically stable, non-polluting/non-contaminating) would be achieved post closure.

3. Inland water environmental quality

Objective: Maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected.

The potential impacts and risks to inland water environmental quality associated with the proposal include:

- Potential for waste rock to produce acid and/or neutral and/or saline metalliferous drainage (AMD) and, if AMD is present, potential impact to surface and ground water from AMD through runoff and seepage from the waste rock stockpiles and pit walls.
- Potential for occurrence of Naturally Occurring Radioactive Materials (NORMs) in waste rock due to the known uranium deposits associated with the adjacent Rum Jungle site

- Potential for poor quality groundwater within the Proposal area that is in a mineralised environment and in the presence of two former mining operations with known groundwater contamination issues.
- Potential for poor quality surface water within or leaving the Proposal area; historically the Finnis River East Branch has been impacted by the former Rum Jungle and Browns Oxide mine operations.
- Potential impacts associated with the discharge of excess groundwater (937 – 1260 ML per year) from the pit into Finnis River East Branch during the Wet season.
- Potential for uncontrolled discharges to Finnis River and East Branch of the Finnis River
- Potential impacts on groundwater quality through the establishment of permanent mine pit lakes, and uncertainty regarding the long term water quality of the pit lakes.
- Potential impact of inducing contaminant migration onsite as a result of pit dewatering. The proposed cone of depression will extend beyond the East Finnis River and potentially beneath the Browns Oxide lease boundary, which could draw contaminated groundwater and surface water.
- Uncertainty on how monitoring data will account for likely existing legacy contamination associated with Browns Oxide and Rum Jungle mines.
- Potential impact through spills of hazardous substances (e.g. hydrocarbon spills) or process water.
- Sedimentation of water due to land clearing and disturbed landforms.
- Uncertainty of potential impacts to water quality following mine closure due to incomplete geochemical characterisation and absence of a draft mine closure plan.

4. Hydrological processes

Objective: Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.

The potential impacts and risks to hydrological processes associated with the proposal include:

- Potential impacts of inundation/flooding in periods of extreme rainfall including alteration of the timing and volume of surface water moving downstream, alteration of sediment deposition regimes and indirect impacts on associated habitat values.
- Potential impacts of proposed water use and dewatering of the pit on groundwater levels on existing users, groundwater dependent ecosystems, permanent pools on the Finnis River East Branch and natural flows for springs in the area.
- Uncertainty around the water sources for the Proposal water supply with both harvested surface water flows and groundwater bores proposed.
- Uncertainty on groundwater levels and flows in the Proposal area and how the creation of a permanent mine pit lake post closure could impact groundwater flows around the void.

5. Social, economic and cultural surroundings

Objective: Protect the rich social, economic, cultural and heritage values of the Northern Territory.

There is uncertainty regarding the potential positive and negative social and economic impacts to the region and stakeholders including:

- Potential cumulative impacts from construction operation traffic from this Proposal and other mining operations in the region impacting road users.

- Uncertainty regarding the mine closure objectives and agreed stakeholder post mining land use.

The NT EPA considers that the Proposal has the potential to have significant environmental impacts. The NT EPA's environmental objectives for Terrestrial flora and fauna; Terrestrial environmental quality; Inland water environmental quality; Hydrological processes; and Social, economic and cultural surroundings may not be met, based on the information provided. A more comprehensive evaluation of those impacts and potential mitigation measures is required to enable the NT EPA to form a view about whether its environmental objectives can be met.

Detailed matters for assessment will be set out by the NT EPA in the Terms of Reference for the Proposal. Draft Terms of Reference will be available for public review.

DECISION

The Yarram Iron Ore Project is capable of having a significant effect on the environment and its environmental significance is such that the preparation of an environmental impact statement is necessary with respect to the proposed action.



DR PAUL VOGEL
CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

28 AUGUST 2018

Attachment A: Agencies consulted on the Notice of Intent.

Department	Division
Department of Environment and Natural Resources	Flora and Fauna Water Resources Weeds Environment Bushfires NT Rangelands
Department of Infrastructure, Planning and Logistics	Lands Planning Infrastructure Transport
Department of Primary Industry and Resources	Fisheries Mining Compliance Petroleum Primary Industry
Department of Tourism and Culture	Heritage Tourism NT Arts and Museums Parks and Wildlife
NT Police, Fire and Emergency Services	Business Improvement and Planning
Department of Health	Environmental Health Medical Entomology
Department of Trade, Business and Innovation	Economics and Policy Strategic Policy and Research
Department of Housing and Community Development	Maintenance Planning Housing supply
Power and Water Corporation	
Aboriginal Areas Protection Authority	Technical
Department of the Attorney-General and Justice	Commercial Division NT Worksafe
Land Development Corporation	
Department of the Chief Minister	Economic and Environmental Policy