

Environmental Protection Act 1986

Section 43A

**NOTICE OF DECISION TO CONSENT TO CHANGE TO PROPOSAL DURING
ASSESSMENT**

PERSON TO WHOM THIS NOTICE IS GIVEN

- (a) Hastings Technology Metals Ltd (ABN: 43 122 911 399)
Box 6 Westralia Plaza
167 St Gorges Terrace
PERTH WA 6000

PROPOSAL TO WHICH THIS NOTICE RELATES:

Yangibana Rare Earths Project
Assessment No. 2115

Pursuant to section 43A of the *Environmental Protection Act 1986* (EP Act), the Environmental Protection Authority consents to the proponent making the following changes to the proposal during assessment without a revised proposal being referred:

1. Combining tailings storage facilities (TSF) and evaporation pond;
 - TSF 1 and TSF 2 combined into the Beneficiation TSF
 - TSF3 and evaporation pond combined into the Hydromet TSF
2. Increase in capacity of TSF to;
 - 10 Mt in the Beneficiation TSF (TSF1 and TSF2)
 - 750,000 tonnes in Hydromet TSF (TSF3 and evaporation pond)
3. Change the deposition methodology of the Beneficiation TSF from central thickened discharge to perimeter discharge in a paddock style design.

These changes are illustrated in Figure 1 attached.

EFFECT OF THIS NOTICE:

1. The proponent may change the proposal as provided for in this notice.

RIGHTS OF APPEAL:

There are no rights of appeal under the EP Act in respect of this decision.



Dr Tom Hatton
Delegate of the Environmental Protection Authority
CHAIRMAN

10 May 2016

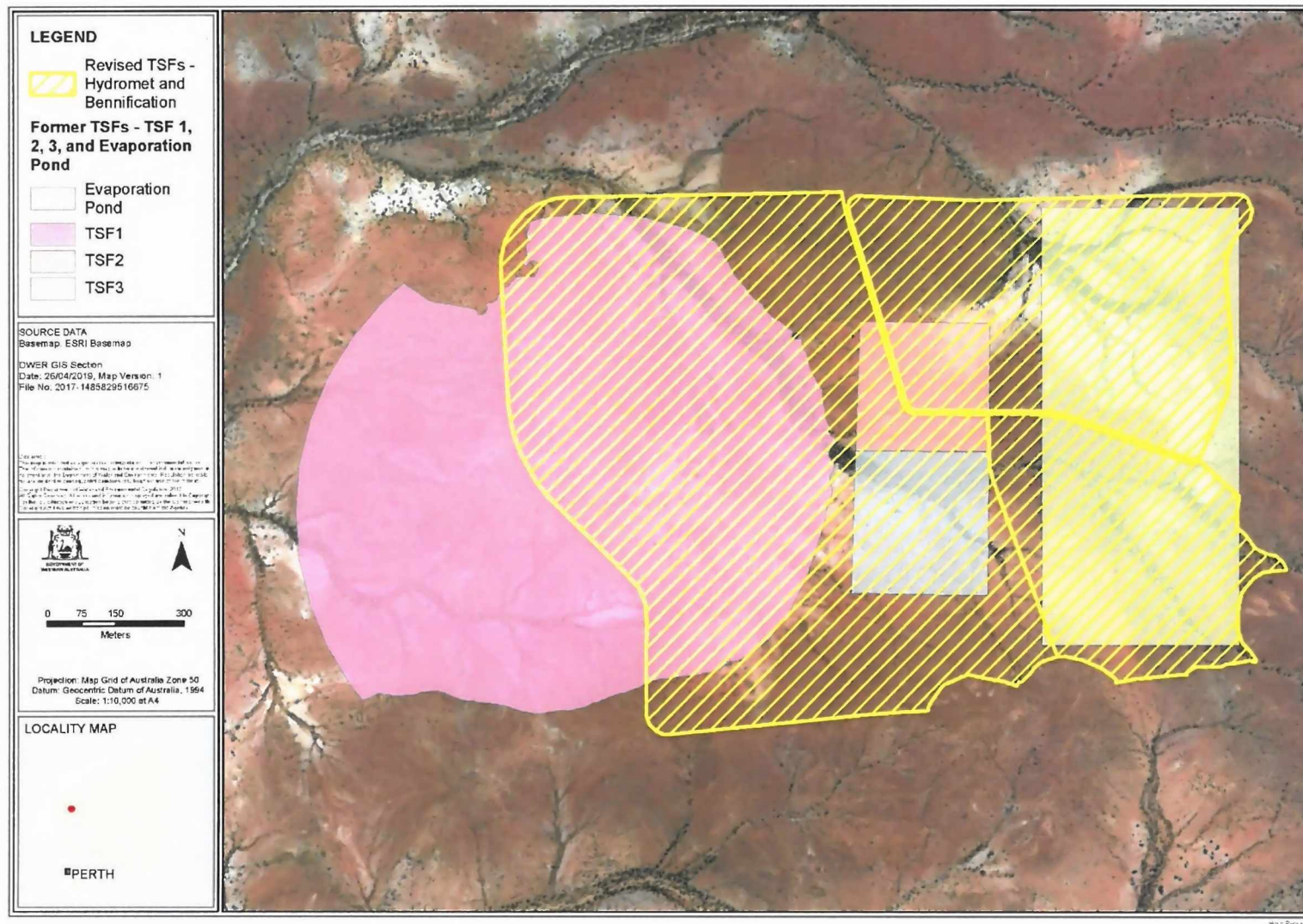


Figure 1: Changes to the tailings storage facilities and evaporation pond

Environmental Protection Act 1986

Section 43A

STATEMENT OF REASONS

CONSENT TO CHANGE PROPOSAL DURING ASSESSMENT

Proposal: Yangibana Rare Earths Project

Proponent: Hastings Technonogy Metals Ltd

Decision

For the reasons outlined below, the Environmental Protection Authority (EPA) has determined to consent to the Proponent changing the Proposal outlined in Schedule 1 attached to this Statement of Reasons.

Background

On 31 January 2017, Hastings Technology Metals Limited (the proponent) referred the Yangibana Rare Earths Project (the proposal) to the EPA under section 38 of the *Environmental Protection Act 1986*. The Proposal includes mining of rare earth elements above and below the ground water table, on-site processing of ore, tailings storage facilities, waste rock landfill, associated infrastructure and transport of the produce via road to Geraldton port (Figure 1).

On 22 February 2018, the EPA determined to assess the proposal at the level of Public Environmental Review with a 4-week public review period and an EPA-prepared Environmental Scoping Document.

The Environmental Review Document (ERD) was released for public review from 1 October 2018 to 28 October 2018.

In advance of the EPA preparing a report on the outcome of its assessment of the proposal, the Proponent has sought the EPA's consent to change the proposal.

Relevant Statutory and Administrative Provisions

Section 3.8 of the Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual 2016 guides what information the EPA requires from a person wanting to change its proposal during assessment.

In considering the request for consent, the EPA considered the:

- details of the proposed change
- statement of the significance of the change
- rationale for the change.

Materials considered in making this decision

In determining whether to consent to the proponent changing the proposal the EPA has considered the following:

1. materials considered
 - Yangibana Rare Earths Project Environmental Review Document, 6 September 2018
 - Yangibana Rare Earths Project Response to Submissions 26 April 2019
 - Request to Change the Proposal, 26 March 2019
 - Yangibana Flora and Vegetation Addendum Report, 9 April 2019
2. consultation with Radiological Council, Department of Mines Industry Regulation and Safety and the Commonwealth Department of Energy and Environment and the Department of Water and Environmental Regulation – Regulatory Services.

Consideration

1. Nature of the proposed change

a) Combining tailings storage facilities (TSF) and evaporation pond:

- TSF 1 and TSF 2 combined into the Beneficiation TSF
- TSF3 and evaporation pond combined into the Hydromet TSF

The change in footprint is illustrated in the attached Figure 2.

The combination of TSF may impact flora and vegetation, inland waters, terrestrial environmental quality and human health. These impacts resulting from the changes are not considered to be significant as:

- Flora and vegetation - The revised design does not require any additional clearing and will not increase impacts to the associated vegetation types. Based on the current information available the proposal is unlikely to increase impacts to significant flora species.
- Inland waters and terrestrial environmental quality - modelling undertaken for the Beneficiation TSF indicates that there is little change to the predicted seepage during operation with horizontal seepage reducing slightly and is still expected to remain within the TSF footprint. The design of the TSF will continue to maintain integrity over the long term (modelling undertaken for 1000 years).

The existing proposal states that surface water management measures will be incorporated into design to ensure flow is maintained. The s43A application specifies the measures that will be undertaken to ensure an external upstream sub catchment flows via an unnamed creek into Fraser Creek. These measures include the design of the TSF and the inclusion of a stormwater diversion channel.

Contaminants in the TSFs have been calculated and show that tailings in the Beneficiation TSF have an average radionuclide level of 0.8 Bq/g with rates up to 1.4 Bq/g for short periods during commissioning and ramp-up. The predicted levels prior to combination of TSF were less than 1 Bq/g for TSF 1 and 4 Bq/g for TSF2. It is predicted that elevated levels of ammonium hydroxide (6,4000 mg/L) will also be produced that may release ammonia gas. All other key elements remain the same as those predicted for the initial TSFs.

Air quality draft modelling report (ERM 2019) predicts that there will be no exceedances of air quality criteria at identified sensitive receptors (workers village and Pastoral Leases homesteads). One exceedance of the 15 min OHS criteria was predicted at one of the 42 onsite receptors, TSF receptor 1 under worst case emission rate and worst case dispersion conditions.

The Department of Water and Environmental Regulation can impose conditions to control the risk of ammonia impacts on the two homestead receptors beyond the premises boundary in addition to environmental receptors under Part V of the EP Act.

Impacts to workers are managed by the Department of Mines, Industry Regulation and Safety (DMIRS) under the Occupational Safety Act 1984.

The DMIRS have advised that the closure of the project can still be adequately managed under the *Mining Act 1978* and the *Mines Safety and Inspection Act 1994*.

- Human Health - The proponent has provided information which indicates that combining the TSF1 and TSF2 into the Beneficiation TSF would not result in an increase in radiological risks to workers or the environment above that contemplated under the ERD (see changes to levels above).

The radionuclide concentrations in the combined hydrometallurgical tailing storage facility are similar to that contemplated under the original design (TSF 3).

The implementation measures outlined in the ERD will ensure that radiation exposure levels do not exceed the regulatory occupational dose limit of 20 mSv/yr above background during operation and are at background levels post closure.

The Radiological Council and Department of Environment and Energy do not consider that there will be a change in the radiation risk profile due to the proposed variation.

b) Increase in capacity of Tailings Storage Facilities

The proponent proposed an increase in the capacity of the TSF by 292,000 tonnes (2.7%).

TSF	Original Extent	Proposed Extent
Beneficiation (TSF1 & TSF2)	9.820 Megatonnes	10 Megatonnes
Hydromet (TSF3 & Evaporation pond)	638,000 tonnes	750,000 tonnes
Total	10.458 Megatonnes	10.750 Megatonnes

The change has been made to include the solids component of the evaporation pond into the Hydromet TSF (not prev. considered as a component of the TSFs), which is approximately 100,000 tonnes, and to allow flexibility as the metallurgists refine aspects of the process plant which may result in a variation in the proportions of tailings going to each facility. This change will not:

- alter the design that has been presented in their report (GHD2019)
- alter the management approach
- impact the key environmental factors.

c) Change the deposition methodology of the Beneficiation TSF.

The proponent is proposing to change the tailings deposition methodology from central thickened discharge to perimeter discharge in a paddock style design in the Beneficiation TSF. This change is not considered significant as:

- The method will assist in keeping the tailings moist and minimising dust. The proponent considers this method to be more efficient will not increase dust from that predicted in the original proposal.
- In addition the proponent proposes to amend the tailings design slightly by using of continuous containment embankments around the tailings surface which would also aid in dust minimisation.

2. Stage of the assessment process

The Environmental Review Document was released for public review from 1 October 2018 to 28 October 2018. The response to submissions document was submitted on 29 March 2019. The draft assessment report will be presented to the EPA at the board meeting on 16 May 2019.

The EPASD consider that it is appropriate to consider this change to proposal while drafting the EPA report and recommendations as it will:

- provide a more informed environmental assessment
- save resources in the long-term as if not addressed now a s45C change to proposal would be required after assessment.

3. Currency, relevance and reliability of the information, including submissions

The EPASD considers that the currency, relevance and reliability of the information provided is satisfactory.

4. Community engagement

The public has not been consulted on this change to proposal due to the low level of public concern discussed below. However, the EPASD has consulted with the Radiological Council, Department of Mines Industry Regulation and Safety and the Commonwealth Department of Energy and Environment.

5. Level of public concern

Of the eight submissions received during the submission period six submissions were from government agencies, one was from the Wildflower Society of Western Australia and one was from a private submitter. This indicates that the level of public concern is low.

Consideration of Whether the Change is Unlikely to Significantly Increase Any Impact that the Proposal May Have on the Environment

The following were considered:

a) Values, sensitivity and the quality of the environment which is likely to be impacted

The EPA Chairman's determination on the level of assessment for the original proposal dated 22 February 2017 identified the following preliminary key environmental factors:

- Flora and Vegetation
- Subterranean Fauna
- Terrestrial Environmental Quality
- Inland Waters
- Human Health

The proposed changes will not require additional factors to be considered as preliminary key environmental factors for the purposes of preparing the draft EPA report and recommendations.

b) Extent (intensity, duration, magnitude and geographic footprint) of the likely impacts

The EPASD is of the opinion that this change to TSF is unlikely to affect the significance and duration of the potential impacts in the context of the entire proposal.

- c) Consequence of the likely impacts (or change)
The proposed change is unlikely to increase the impacts of the proposal and may reduce the impacts in terms of lower radiation levels in the Beneficiation TSF compared to those in TSF 2 of the exiting proposal.
- d) Resilience of the environment to cope with the impacts or change
The EPASD considers that the resilience of the environment to cope with the impacts from the changed proposal remains unchanged from that of the original proposal, should it be implemented.
- e) Cumulative impacts with other projects
There are no other projects in the area and therefore cumulative impact has not been considered.
- f) Connections and interactions between parts of the environment to inform holistic view of impacts of the whole environment
The interactions between the key environmental factors identified above have been considered. The EPASD is of the opinion that the impact to the environmental functions and values of the proposal area is unlikely significantly increased as a result of the changed proposal being implemented.
- g) Level of confidence in the prediction of impacts and the success of proposed mitigation
There is no change to the level of confidence in the prediction of impacts and the success of the proposed mitigation.
- h) Public interest about the likely effect of the proposal, if implemented, on the environment, and public information that informs the EPA's assessment
The private submitter and Wildflower Society WA were concerned with the adequacy of the flora and vegetation surveys undertaken in the Gascoyne Region where the little is known.

Schedule 1

Change to Proposal

Table 1: Summary of the proposal

Proposal title	Yangibana Rare Earths Project
Short description	The proposal is to develop a mine to extract and process Rare Earth Elements which includes five open pits, tailings facilities and ancillary infrastructure to support the mining operation.

Table 2: Location and proposed extent of physical and operational elements

Element	Location	Original extent	Proposed extent
<i>Physical elements</i>			
Mine and associated infrastructure	Figure 1	Clearing of no more than 1,000 ha within a development envelope of 13,373 ha.	Clearing of no more than 1,000 ha within a development envelope of 13,373 ha.
<i>Operational elements</i>			
Mining	Figure 1	Mining from four pits: <ul style="list-style-type: none"> • Yangibana North • Yangibana West • Bald Hill • Frasers 	Mining from five pits: <ul style="list-style-type: none"> • Yangibana North • Yangibana West • Bald Hill and Bald Hill SE • Frasers
Groundwater abstraction from pits and SipHon borefield	Figure 1	no more than 2.5 GL/a of groundwater	no more than 2.5 GL/a of groundwater
Tailings disposal	Figure 1	no more than: <ul style="list-style-type: none"> 9.336 Mt into TSF1 484,000 t into TSF2 638,000 t into TSF3 	no more than: <ul style="list-style-type: none"> 10 Mt into Beneficiation TSF 750,000 t into Hydromet TSF

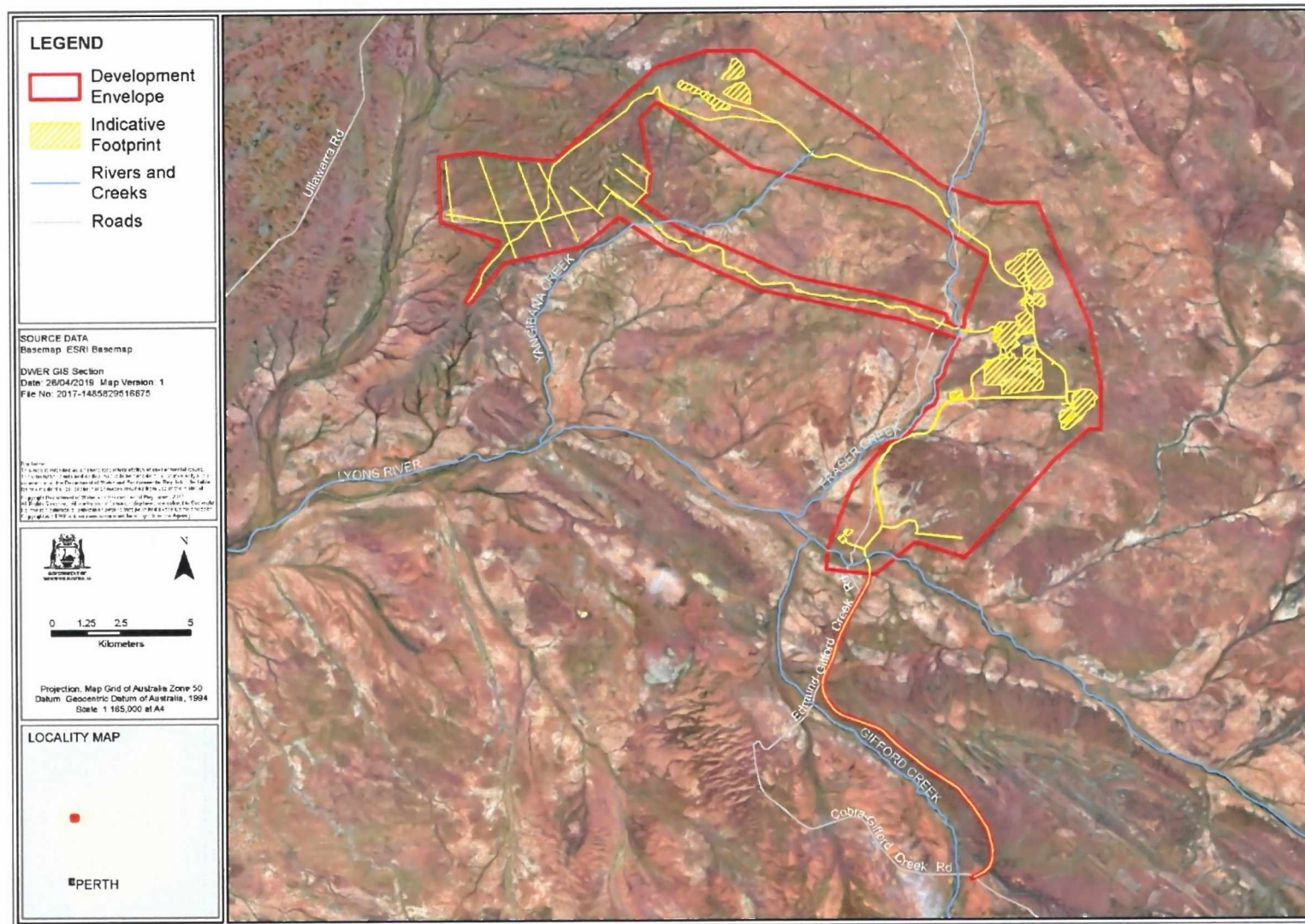


Figure 1: Yangibana development envelope and indicative footprint

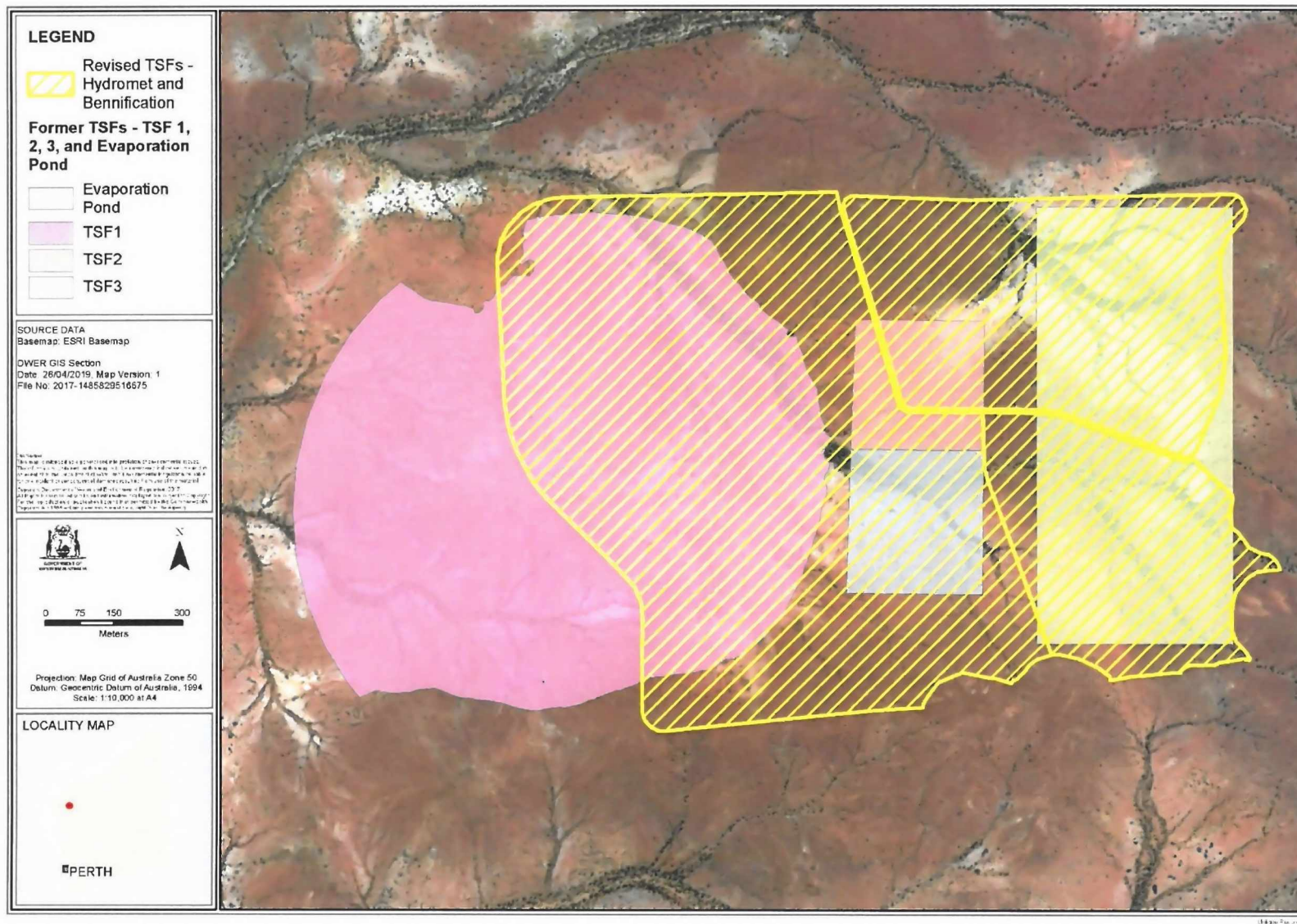


Figure 2: Changes to the tailings storage facilities and evaporation pond