



# Report and recommendations of the Environmental Protection Authority



## Western Turner Syncline Iron Ore Project – Revised Proposal

**Hamersley Iron Pty Limited**

Report 1565

April 2016

## Assessment on Proponent Information Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
14/12/15	Level of assessment set	
11/02/16	Proponent's final Environmental Review (API) document received by EPA	8
18/2/16	EPA meeting	1
6/4/16	EPA report provided to the Minister for Environment	4
11/4/16	Publication of EPA report (3 working days after report provided to the Minister)	3 days
26/4/16	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority met its timeline objective in the completion of the assessment and provision of a report to the Minister.



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Deputy Chairman

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# 1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for Environment on the outcomes of its environmental impact assessment of the proposed change by Hamersley Iron Pty Limited (a wholly owned subsidiary of Rio Tinto Iron Ore) to the Western Turner Syncline Iron Ore Project. Hamersley Iron Pty Limited was nominated as the proponent responsible for the proposal.

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires that the EPA prepare a report on the outcome of its assessment of a proposal and provide this assessment report to the Minister for Environment. The report must set out:

- the key environmental factors identified by the EPA in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation of the proposal should be subject.

The EPA may also include any other information, advice and recommendations in the assessment report as it thinks fit.

The aims of environmental impact assessment and the principles of environmental impact assessment considered by the EPA in its assessment of this proposal are set out in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012*.

The proponent has submitted an Assessment on Proponent Information (API) Environmental Review document and supporting documents (including technical studies). These documents describe the existing proposal, the proposed change to the proposal, outcomes of consultation, environmental studies undertaken, and the proponent's assessment of impacts on environmental factors and application of the mitigation hierarchy to manage those impacts (Appendix 6).

This report provides the EPA advice and recommendations in accordance with section 44 of the EP Act.

## 2. The proposal

The proponent, Hamersley Iron Pty Limited, proposes a change (referred to in this Report as the proposal) to the approved Western Turner Syncline Iron Ore Project which is located approximately 20 km west of Tom Price (Figure 1).

The Western Turner Syncline Project consists of the following two approved proposals:

- Western Turner Syncline, Section 10 Iron Ore Project (Ministerial Statement 807, 17 September 2009) for an above water table open-cut mine and link to the existing Tom Price Mine operation with an infrastructure corridor; and
- Western Turner Syncline Stage 2 – B1 and Section 17 Deposits (Ministerial Statement 946, 22 August 2013) for an above and below water table open-cut mine and associated infrastructure.

The proposal is constituted by the following additional activities for the Section 10 Hub (Ministerial Statement 807):

- above and below water table extension of the approved Section 10 BRK Pit;
- development of the above water table Section 10 BRK West Pit;
- development of the above and below water table Section 10 MM East and MM West pits; and
- discharge of surplus mine dewater into the northern branch of the Hardey River.

Figure 2 shows the indicative footprint of the proposal in the vicinity of the existing Section 10 Hub.

The change, if approved, and the existing approved proposals (Ministerial Statements 807 and 946) would result in the following total likely impacts:

- total clearing of up to 4,350 hectares (ha) (additional clearing of up to 750 ha) within the proposed Development Envelope of 15,836 ha. The additional clearing is required for the expansion of existing pits, development of additional pits and associated waste dumps (Figure 2);
- dewatering of up to 18.3 gigalitres per annum (GL/a) (additional dewatering of 7.3 GL/a); and
- discharge of surplus dewater into the Beasley and Hardey river systems (existing approval is for discharge to Beasley River only).

The key characteristics of the revised proposal (i.e. the amalgamation of the existing approved proposals and this proposal) are summarised in Tables 1 and 2.

A detailed description of the proposal in relation to the existing approved proposal is provided in the proponent's API Environmental Review Document (Rio Tinto 2015) which is attached as Appendix 6.

**Table 1: Summary of revised key proposal characteristics**

<b>Proposal title</b>	Western Turner Syncline Iron Ore Project
<b>Proponent name</b>	Hamersley Iron Pty Limited
<b>Short description</b>	<p>The proposal is to develop above and below water table iron ore deposits and associated infrastructure at Western Turner Syncline, approximately 20 km west of Tom Price in the Pilbara Region.</p> <p>The Western Turner Syncline Project involves open-pit mining of iron ore deposits above and below the groundwater table and the construction/operation of associated infrastructure.</p>

**Table 2: Revised proposal elements**

<b>Element</b>	<b>Location</b>	<b>Authorised Extent</b>
Mine and associated infrastructure	Figure 2	<p>Clearing of no more than 4,350 ha within the development envelope of 15,836 ha.</p> <p><b>(Change results in additional clearing of 750 ha)</b></p>
Dewatering	Figure 2	<p>Up to 18.3 gigalitres per annum.</p> <p><b>(Change results in additional dewatering of 7.3 GL/a)</b></p>
Surplus dewater management	Figure 2	<p>Disposal through controlled dewater discharge to:</p> <ul style="list-style-type: none"> <li>• Beasley River. The wetting front to extend no further than 20 km downstream of the designated discharge point under natural no-flow conditions.</li> <li>• Hardey River. The wetting front to extend no further than 15 km downstream of the designated discharge point under natural no-flow conditions.</li> </ul> <p><b>(Change results in mine dewater discharge into Hardey River)</b></p>
Backfilling of mine pits	Figure 2	<p>The following mine pits are to be backfilled to a level which will not allow the formation of permanent pit lakes:</p> <ul style="list-style-type: none"> <li>• Section 17 mine pits 3 and 8; and</li> <li>• Section 10 MM East and MM West pits</li> </ul> <p><b>(Change results in additional Section 10 MM East and MM West pits which will be backfilled. The below water table extension of BRK Pit will not be backfilled.)</b></p>

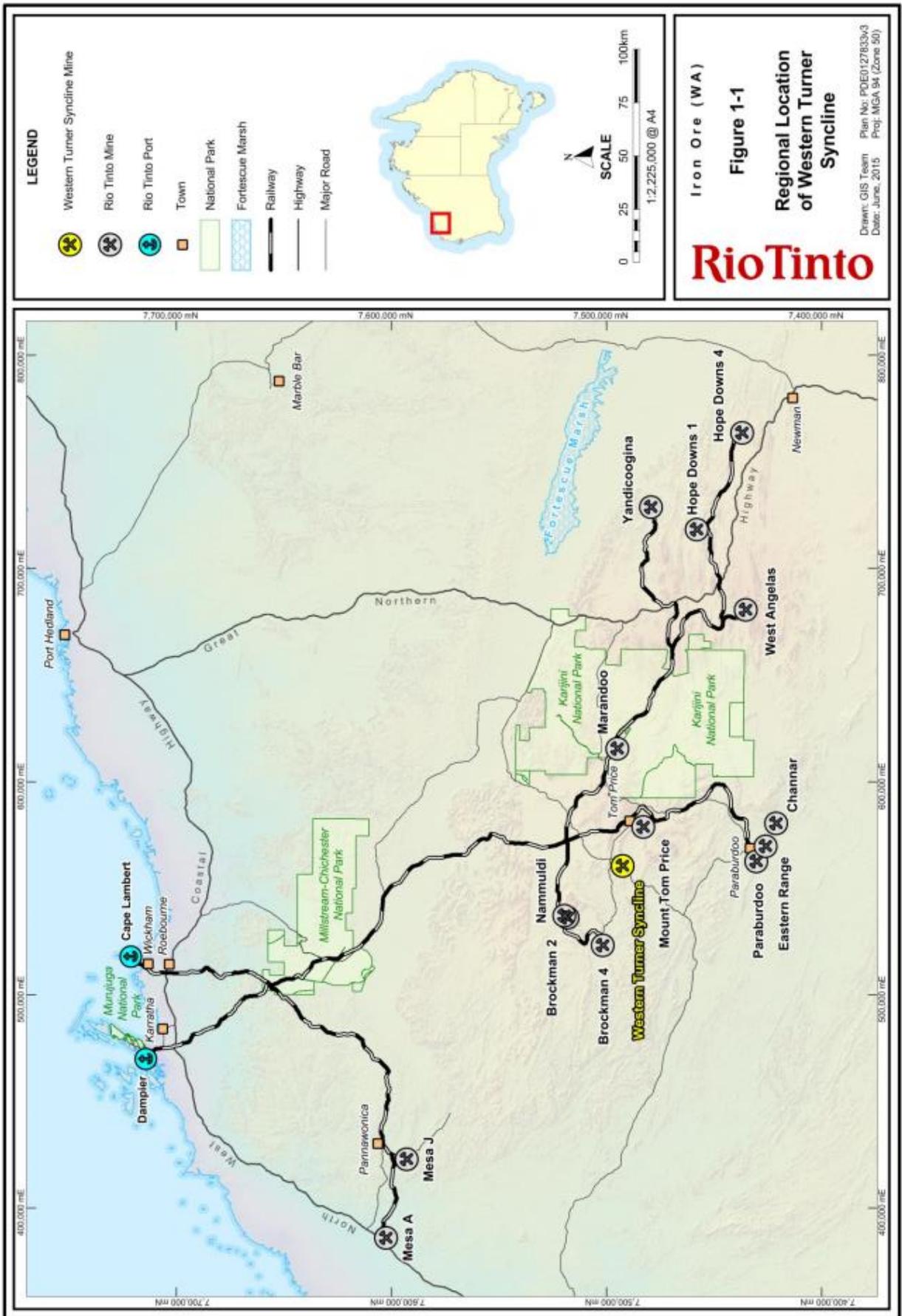


Figure 1: Proposal location

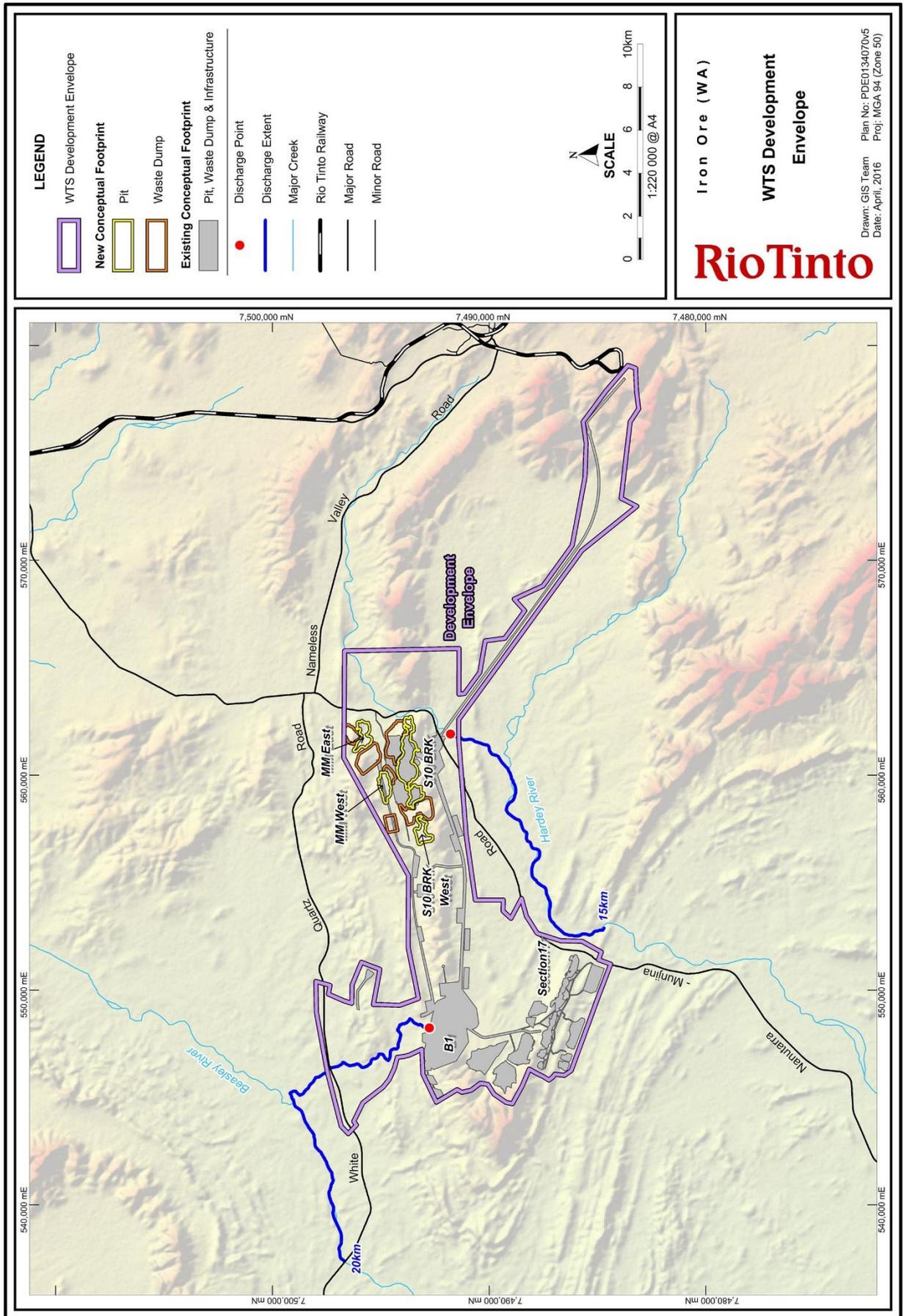


Figure 2: Development envelope and indicative footprint of the proposal

The potential impacts of the proposal on the environment identified by the proponent and their proposed management are summarised in Table 6-1 of the Environmental Review (Appendix 6, Rio Tinto 2015).

In assessing this proposal, the EPA notes that the proponent has sought to avoid, minimise, and rehabilitate environmental impacts associated with the proposal by:

- avoiding where practicable, impacts to known P1 flora locations through the use of restriction and avoidance buffers;
- minimising clearing to that required for safe construction and operation of the proposal; and
- progressively rehabilitating disturbed areas with native flora species.

During the preparation of the Environmental Review (API) document, the proponent consulted with government agencies and key stakeholders. The agencies and stakeholders consulted, the issues raised and proponent's response are detailed in Table 4-1 (pages 30-34) of the proponent's Environmental Review document (see Appendix 6, Rio Tinto, 2015).

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders on the proposed development.

### 3. Key environmental factors

Having regard to:

- the proponent's referral information;
- public comments on referral information;
- consultation undertaken by the proponent and presented in the referral information;
- Environmental Assessment Guideline No. 8 *Environmental Principles, Factors and Objectives* (EPA, 2015a); and
- Environmental Assessment Guideline No. 9 *Application of a Significance Framework in the Environmental Impact Assessment Process* (EPA, 2015b),

the EPA identified the following preliminary key environmental factors in the determination to assess the proposal at the API-A level of assessment:

1. **Flora and Vegetation** – direct impacts from the additional clearing of flora and vegetation within the Development Envelope and additional potential impacts to riparian vegetation along the Hardey River System;
2. **Hydrological Processes** – changes to the hydrological regime of the river system from the additional discharge of up to 7.3 gigalitres per year surplus dewater into the Hardey River;

3. **Rehabilitation and Decommissioning (Integrating Factor)** – the formation of an additional pit lake at the S10 BRK Pit at closure and the presence of potential acid forming material in the S10 BRK Pit which could impact soil and groundwater quality. The proposal is also predominantly on State Agreement Act tenements and is therefore not subject to *Mining Act 1978* mine closure requirements; and
4. **Offsets (Integrating Factor)** – to counterbalance the significant residual impacts to native vegetation in ‘Good to Excellent’ condition.

The EPA confirms that the above factors were identified as the key environmental factors during the course of its assessment of the proposal.

Other environmental factors which the EPA determined not to be key environmental factors are discussed in the proponent’s Environmental Review (API) document (Appendix 6, Rio Tinto 2015).

Appendix 2 contains the environmental factors identified through the course of the assessment and the EPA’s evaluation of whether an environmental factor is a key environmental factor for the proposal.

In undertaking its assessment of this proposal and preparing this report and recommendations, the EPA has had regard for the object and principles contained in s4A of the EP Act. Appendix 2 provides a summary of the principles and how the EPA applied these principles in its assessment. The EPA notes that the principles under s4A relate to all parts of the EP Act and therefore some of the principles are more applicable to parts of the EP Act other than Part IV.

The EPA’s assessment of the proposal’s impacts on the key environmental factors is detailed in Table 3. This table outlines the EPA’s conclusions as to whether or not the proposal can be managed to meet the EPA’s objective for a particular factor and, if so, the recommended conditions and procedures that should apply if the proposal is implemented.

In assessing this proposal, the EPA has also considered relevant published EPA policies and guidelines. Consistent with *Environmental Assessment Guideline for Preparation of an API – Category A Environmental Review Document* (EAG 14) (EPA, 2015c), the Assessment of Key Environmental Factors (Table 3), identifies the relevant policies and guidance considered for each of the key environmental factors identified in this assessment.

Appendix 3 contains a list of the policies and guidance documents that are applicable to each of the key environmental factors for this assessment and the relevant considerations for each policy and guidance document. The EPA has discussed the application of the relevant policy and guidance for each factor in Table 3.

The EPA notes that other published policies and guidelines were considered, but were determined not to be relevant to this assessment.

**Table 3: Assessment of Key Environmental Factors**

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p><b>3.1 Flora and Vegetation</b></p> <p><i>To maintain representation, diversity, viability and ecological function at the species, population and community level.</i></p>				
<p><u>Context</u></p> <ul style="list-style-type: none"> <li>The Western Turner Syncline Proposal falls within the Hamersley IBRA subregion. In its advice <i>Cumulative Environmental Impacts of Development in the Pilbara Region – advice under Section 16e of the EP Act</i>, the EPA indicated that this area is under pressure as a result of cumulative development impacts (EPA, 2014a).</li> <li>The proposed change includes the clearing of an area of 750 ha of vegetation in ‘Good to Excellent’ condition.</li> </ul> <p><u>Policy and guidance</u> EPA policy and guidance considered by the EPA to be</p>	<p><u>Aspect 1</u> Additional clearing of native vegetation</p>	<p>In line with Position Statement No. 3, the proponent has demonstrated the application of the mitigation hierarchy in proposal design, including avoidance of impacts to known P1 flora locations through use of restriction and avoidance buffers, and minimisation of clearing to that required for safe construction and operation.</p> <p><u>Avoid</u> Most recordings of P1 flora species within the development envelope fall outside the conceptual mine layout. Known locations of the potential P1 flora species <i>Goodenia</i> sp. aff.</p>	<ul style="list-style-type: none"> <li>The extent of clearing authorised in the implementation of the revised proposal would be no more than 4,350 ha – see Schedule 1 of Recommended Environmental Conditions.</li> <li>Condition 6 recommends that rehabilitation is undertaken in accordance with a Mine Closure Plan that is consistent with DMP/EPA <i>Guidelines for Preparing Mine Closure Plans</i>.</li> </ul>	<p>Having particular regard to the:</p> <ul style="list-style-type: none"> <li>absence of DRF, TECs and PECs in the areas surveyed;</li> <li>minimal impacts to Priority 1 flora species;</li> <li>widespread nature of the identified vegetation types in the project area;</li> <li>consistency with Position Statement No. 2, in that the additional impacts to Priority flora would not change the status of the identified species and no vegetation type would be reduced to below 30% of the pre-clearing extent; and</li> </ul>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>relevant for this factor for this assessment (Appendix 3) are:</p> <ul style="list-style-type: none"> <li>Guidance Statement No. 51 - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in WA (EPA, 2004a);</li> <li>Position Statement No. 2 - Environmental Protection of Native Vegetation in WA (EPA, 2000); and</li> <li>Position Statement No. 3 – Terrestrial Biological Surveys as an Element of Biodiversity Protection (EPA, 2002)</li> </ul> <p>It is the EPA's view that the proponent has carried out flora and vegetation surveys in accordance with Guidance Statement No. 51 and Position Statement No. 3.</p> <p>The proponent has conducted flora and vegetation studies for the development envelope and for the riparian vegetation of the Hardey River System in the area where discharge is expected to reach.</p>		<p><i>pedicellata</i> would be avoided and known locations of the P1 flora species <i>Hibiscus sp.</i> Mt Brockman would be avoided where possible.</p> <p><u>Minimise</u> Clearing to be minimised to that required for safe construction and operation.</p> <p>Known locations of priority flora and have been recorded in proponent database and they would minimise impacts to P1 flora species through the use of restriction and avoidance buffers and minimising clearing to that required for safe construction and operation of the proposal.</p> <p><u>Rehabilitate</u> Disturbed areas would be progressively rehabilitated with native flora species. The EPA notes that the</p>	<p>An offset condition (Condition 7) is recommended requiring the proponent to offset the additional clearing of up to 750 ha of 'Good to Excellent' native vegetation.</p>	<ul style="list-style-type: none"> <li>significant residual impact of the clearing of up to 750 ha of 'Good to Excellent' condition native vegetation in the Hamersley IBRA subregion,</li> </ul> <p>the EPA considers that the proposal can be managed to meet the EPA's objective for Flora and Vegetation provided there is:</p> <ul style="list-style-type: none"> <li>restriction of clearing within the development envelope (Schedule 1);</li> <li>continued implementation of measures to manage potential impacts from dewater discharge through the preparation, submission and implementation of a riparian vegetation management plan, the outcome of which is to maintain the health of riparian vegetation of the</li> </ul>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>These documents are available as appendices to the Environmental Review Document (Rio Tinto, 2015).</p> <p><u>Key (Survey) Findings</u></p> <ul style="list-style-type: none"> <li>No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) or plant species listed as Declared Rare Flora (DRF) under <i>Wildlife Conservation Act 1950</i> have been identified within the Development Envelope.</li> <li>Six Priority listed species were identified within the Development Envelope: One P1 (<i>Hibiscus sp.</i> Mt Brockman), four P3 and one P4 species as well as one species which is undergoing taxonomic review however for the purpose of this assessment is being treated as P1 species <i>Goodenia pedicellata</i>.</li> <li>The proponent has undertaken a baseline flora and vegetation survey along the Hardey River. The survey found no significant</li> </ul>		<p>proponent has rehabilitated 50 ha at Western Turner Syncline under Ministerial Statement 807 and 70 ha under Statement 946.</p> <p><u>Offset</u> The EPA has determined that the cumulative impact of clearing within the Hamersley IBRA subregion is at a critical level and that an offset will be required counterbalance the significant residual impact of the clearing of native vegetation in 'Good to Excellent' condition. (see 3.4 Offsets)</p>		<p>Beasley and Hardey River Systems (condition 5);</p> <ul style="list-style-type: none"> <li>continued implementation of rehabilitation measures through the preparation, submission and implementation of a Mine Closure Plan (condition 6); and</li> <li>an offset being applied to counterbalance the significant residual impact of the clearing of up to 750 ha of 'Good to Excellent' condition vegetation (condition 7).</li> </ul>
	<p><u>Aspect 2</u> Surface discharge of water into Hardey River.</p>	<p><u>Minimise</u> Impacts to riparian vegetation along Hardey River would be minimised through management measures to reduce impacts on natural hydrological regimes through limiting the spatial</p>	<ul style="list-style-type: none"> <li>Condition 5 has been recommended for the proponent to prepare, submit and implement a riparian vegetation management plan to manage impacts to vegetation along</li> </ul>	

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>flora or TECs or PECs in the area. The survey also found the vegetation associations to be similar to the Beasley River system and of moderate conservation value.</p> <p><u>Impacts</u></p> <ul style="list-style-type: none"> <li>• Additional clearing for this proposal would be up to 750 ha of vegetation considered to be in 'Good to Excellent' condition.</li> <li>• Up to 1.75% of the known extent P1 Hibiscus flora species may be disturbed. No <i>Goodenia pedicellata</i> individuals would be disturbed.</li> <li>• Potential stress to riparian vegetation along Hardey River system as a result of discharge of surplus water to an extent of 15 km downstream of the discharge point.</li> </ul>		<p>and temporal extent of discharge and monitoring and managing the potential impacts of the discharge to the northern branch of the Hardey River including the potential for waterlogging and spread of weeds.</p>	<p>Hardey River. This plan would update the plan approved under Condition 7 of Ministerial Statement 946 which requires management of riparian vegetation along the Beasley River.</p>	

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p><b>3.2 Hydrological Processes</b></p> <p><i>To maintain hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.</i></p>				
<p><u>Context</u> Up to an additional 7.3 GL/a of surplus dewater would be discharged (into the northern branch of the Hardey River).</p> <p><u>Policy and guidance</u> There is no EPA policy or guidance considered by the EPA to be relevant to this factor for this assessment (Appendix 3).</p> <p><u>Key Findings</u> Modelling of surface water hydrology of Hardey River indicates the following:</p> <ul style="list-style-type: none"> <li>• No 'overbank flow' is likely to occur as discharge would be confined to the low flow channel within the creek bed; and</li> <li>• The bedrock units are low permeability so discharge water</li> </ul>	<p><u>Aspect</u> Discharge of surplus water during natural no-flow conditions.</p>	<p><u>Minimise</u> Discharge would be confined to the low flow channel within the creek bed to minimise 'overbank flow'.</p>	<ul style="list-style-type: none"> <li>• Condition 5 and has been recommended for the proponent to prepare, submit and implement a riparian vegetation management plan to manage impacts to vegetation along Hardey River (see Flora and Vegetation).</li> </ul>	<ul style="list-style-type: none"> <li>• Having particular regard to:</li> <li>• the discharge volumes is likely to be smaller than the volume generated by the catchment during flood events; and</li> <li>• the likelihood that discharge would be confined to the low flow channel within the creek bed,</li> </ul> <p>the EPA considers that the proposal can be managed to meet the EPA's objective for Hydrological Processes subject to:</p> <ul style="list-style-type: none"> <li>• restriction of surplus water discharge at Hardey River to extend no further than 15 km downstream of the discharge point under</li> </ul>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>would be retained within the surface alluvials.</p> <ul style="list-style-type: none"> <li>The proponent estimates that the wetting front would extend up to 15 km downstream of the discharge point under natural no flow conditions.</li> <li>The daily dewatering discharge volume contribution into Hardey River would be less than 2% of the daily average volume naturally passing through that creek during a 10 year event.</li> </ul> <p><u>Impacts</u></p> <ul style="list-style-type: none"> <li>Discharge of surplus water under no-flow conditions may cause tree health decline in the riparian zone of the river system, the spread of weeds and the influx of feral animals during dry periods.</li> </ul>				<p>natural no-flow conditions (Schedule 1); and</p> <ul style="list-style-type: none"> <li>continued implementation of measures to manage potential impacts from dewater discharge through the preparation, submission and implementation of a riparian vegetation management plan, the outcome of which is to maintain the health of riparian vegetation of the Beasley and Hardey River Systems (condition 5).</li> </ul>
<p><b>3.3 Rehabilitation and Decommissioning (Integrating Factor)</b></p>				
<p><i>To ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner.</i></p>				
<p><u>Context</u></p>	<p>Alteration of landforms to</p>	<p><u>Avoid</u></p>	<ul style="list-style-type: none"> <li>A condition (6) has been recommended</li> </ul>	<ul style="list-style-type: none"> <li>Having particular regard to:</li> </ul>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>The revised proposal is subject to the <i>Iron Ore (Hamersley Range) Agreement Act 1963</i>, with some areas of infrastructure occurring on Mining Act tenements (which are subject to regulation under the <i>Mining Act 1978</i>).</p> <p><u>Policy and guidance</u> The EPA policy and guidance considered by the EPA to be relevant for this factor for this assessment (Appendix 3) is:</p> <ul style="list-style-type: none"> <li>• Guidance Statement No. 6 - <i>Rehabilitation of Terrestrial Ecosystems</i> (EPA, 2006);</li> <li>• Environmental Protection Bulletin No. 19 - <i>EPA involvement in mine closure</i> (EPA, 2013a); and</li> <li>• <i>Guidelines for preparing mine Closure Plans</i> (DMP &amp; EPA, 2015).</li> </ul> <p>As the revised proposal occurs predominantly on State Agreement Act tenements, the EPA considers that rehabilitation and decommissioning should be assessed for the whole proposal.</p>	<p>create a mine pit and waste landforms.</p>	<p>The proponent has designed the pits for Section 10 BRK which allows ore to be mined without intersecting geochemically problematic mineral wastes (hot and cold black shales).</p> <p><u>Minimise</u></p> <ul style="list-style-type: none"> <li>• Waste dump designs will be based on the chemical and physical properties of waste material. Sufficient volumes of suitable waste will be available to construct waste landforms that are stable and not subject to excessive erosion and to encapsulate the lower volumes of rock that poses a potential AMD risk.</li> <li>• Pit walls would be stabilised to prevent encroachment into the</li> </ul>	<p>for the proponent to prepare and implement a Mine Closure Plan and update this plan every three years during the operations. This is consistent with the current <i>Guidelines for preparing mine closure plans</i>.</p> <ul style="list-style-type: none"> <li>• As stated in these guidelines, where the mine site is subject to multiple regulatory frameworks, a single Mine Closure Plan is required that addresses <i>Mining Act 1978</i> components and non-<i>Mining Act 1978</i> components.</li> </ul>	<ul style="list-style-type: none"> <li>• the revised proposal occurring predominantly on State Agreement Act tenements;</li> <li>• up to 750 ha of additional disturbed native vegetation requiring rehabilitation;</li> <li>• the potential for exposure of PAF materials; and</li> <li>• the creation of pit lakes to post mine closure;</li> <li>• the EPA considers that the proposal can be managed to meet the EPA's objective for Rehabilitation and Decommissioning subject to:</li> <li>• Condition 6 requiring the proponent to develop and implement a Mine Closure Plan and review the Mine Closure Plan every three years in accordance with the</li> </ul>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>This is consistent with Environmental Protection Bulletin No. 19 and the <i>Guidelines for preparing mine closure plans</i> that state that the EPA will assess rehabilitation and decommissioning for proposals subject to State Agreement Acts.</p> <p><u>Key Findings</u></p> <ul style="list-style-type: none"> <li>• Potential Acid Forming (PAF) material is present in low volumes in the S10 BRK pit. Mining could expose the PAF causing acid and metalliferous drainage (AMD), and potentially impact soil and groundwater quality.</li> <li>• The proposal would result in two mine pit voids which would not be backfilled and would result in two permanent pit lakes.</li> </ul> <p><u>Impacts</u></p> <ul style="list-style-type: none"> <li>• PAF material affecting soil and groundwater quality.</li> <li>• Impacts to soil stability from erosion of waste landforms if not properly revegetated.</li> </ul>		<p>local creek floodplain, where applicable.</p> <ul style="list-style-type: none"> <li>• Backfill of the MM East and MM West pits to above the groundwater table to prevent the formation of permanent pit lakes.</li> <li>• Abandonment bunds would be used to limit access to the pit lakes.</li> </ul> <p><u>Rehabilitate</u> Disturbed areas would be progressively rehabilitated with native flora species.</p> <p>The EPA considers that the relevant considerations from Guidance Statement 6 have been addressed through current mine closure requirements for the existing proposals (Ministerial Statements 807 and 946).</p>		<p><i>Guidelines for preparing mine closure plans.</i></p>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<ul style="list-style-type: none"> <li>Creation of permanent pit lakes at closure.</li> </ul>		Rehabilitation objectives and completion criteria would need to be set (in the Mine Closure Plan) for the revised proposal in accordance with Guidance Statement No. 6.		
<p><b>3.4 Offsets (Integrating Factor)</b></p> <p><i>To counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.</i></p>				
<p><u>Context</u> The clearing of native vegetation in 'Good to Excellent' condition in the Pilbara IBRA bioregion is considered to be significant when considered in a cumulative context (EPA, 2014a).</p> <p>The proposal is located within the Hamersley IBRA subregion. Only 13% of the Hamersley subregion is currently reserved for conservation.</p> <p>Following the implementation of all mitigation measures, the proponent would have a significant residual impact of clearing of up to an additional 750 ha of 'Good to</p>	<p>Clearing of up to an additional 750 ha of 'Good to Excellent' condition native vegetation.</p>	<p>Consistent with the relevant offset policies and guidance, the proponent has addressed the mitigation hierarchy by identifying measures to avoid, minimise and rehabilitate environmental impacts. Mitigation measures are assessed under the relevant environmental factor (see Flora and Vegetation).</p> <p>After consideration of mitigation measures, a significant residual impact remains.</p>	<ul style="list-style-type: none"> <li>A condition (condition 7) has been recommended requiring the proponent provide an offset for the additional clearing of up to 750 ha of 'Good to Excellent' condition native vegetation.</li> <li>An offset for the clearing of 2,700 ha is required for the Western Turner Syncline Stage 2 – B1 and Section 17</li> </ul>	<p>Conservation areas in the Pilbara bioregion total approximately eight per cent of the area, with the remainder mostly Crown Land, covered with mining tenements and pastoral leases. As such, the potential for traditional land acquisition and management of offsets are limited. The WA Offsets policy states that Environmental Offsets will be focussed on longer term strategic outcomes (Principle 6).</p>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>Excellent' condition native vegetation.</p> <p><u>Policy and guidance</u> The EPA policy and guidance considered by the EPA to be relevant for this factor for this assessment (Appendix 3) is:</p> <ul style="list-style-type: none"> <li>• <i>WA Environmental offsets policy</i> (Government of Western Australia, 2011);</li> <li>• <i>WA Environmental offset guidelines</i> (Government of Western Australia, 2014); and</li> <li>• Environmental Protection Bulletin No. 1 - <i>Environmental offsets</i> (EPA., 2014b)</li> </ul> <p>Consistent with the <i>WA Environmental Offset Guidelines</i> (2014), where the cumulative impact is already at a critical level, a significant residual impact relating to cumulative impacts will require an offset.</p> <p>As stated in Environmental Protection Bulletin No. 1, if a proponent is seeking a change to, or</p>		<p>Consistent with the Residual Impact Significance Model in the <i>WA Environmental Offsets Guidelines</i>, the EPA has determined that the cumulative impact of clearing within the Hamersley IBRA subregion is at a critical level and that an offset will be required counterbalance the significant residual impact of the clearing of native vegetation in 'Good to Excellent' condition.</p> <p>The proponent has committed to providing an offset in line with current policies and guidelines.</p>	<p>Deposits (Ministerial Statement 946). This new condition requires this area to also be offset.</p> <ul style="list-style-type: none"> <li>• The clearing authorised for the Western Turner Syncline, Section 10 Iron Ore Project (Ministerial Statement 807) and the land permitted to be cleared under Clearing Permit 4581/1 is exempt from offset requirements as no offset was required for those approvals.</li> </ul>	<p>In its advice <i>Cumulative Environmental Impacts of Development in the Pilbara Region – advice under Section 16e of the EP Act</i>, the EPA proposed the establishment of a strategic conservation initiative for the Pilbara as a mechanism to pool offset funds to achieve biodiversity conservation outcomes. The EPA has stated that the type of environmental offsets in the Pilbara that contribute to a strategic conservation initiative will ensure a consistent and transparent approach and contribute to longer term strategic outcomes (as outlined in the <i>WA Environmental Offsets Policy</i>), with contributions based on an assessment of the significance of environmental impacts.</p> <p>The state government is currently considering how to</p>

Inherent Impact	Environmental Aspect	Mitigation actions to address residual impacts	Proposed regulatory mechanisms for ensuring mitigation	Outcome to demonstrate that the proposal meets EPA objective
<p>an expansion of, a proposal under an existing approval, these changes would be subject to the current offsets practice. Therefore consistent with this, the EPA is only assessing whether offsets are appropriate for the change to the approved Western Turner Syncline Iron Ore Project.</p> <p><u>Impacts</u> Loss of up to an additional 750 ha of 'Good to Excellent' native vegetation.</p>				<p>establish this conservation initiative.</p> <p>Commensurate with other decisions within the Hamersley IBRA subregion, the EPA recommends that an offset of \$750 per hectare cleared of 'Good to Excellent' condition vegetation should apply in the form of a contribution to a Pilbara strategic conservation initiative.</p> <p>The EPA considers that the proposal can be managed to meet the EPA's objectives for Flora and Vegetation and Offsets provided a condition is imposed to counterbalance the significant residual impact of the clearing of up to 750 ha of native vegetation in 'Good to Excellent' condition.</p>

## 4. Conclusion and recommended conditions

The EPA has concluded that the proposal can be managed to meet the EPA's objectives and therefore recommends that the proposal may be implemented.

Section 45B of the EP Act provides that if a proposal is revised (i.e. the amalgamation of the existing approved proposals and this proposal) after implementation conditions have been agreed, each of those implementation conditions (in this case, implementation conditions in Ministerial Statements 807 and 946) continue to apply to the revised proposal, subject to revised conditions or procedures being applied to the revised proposal.

In its assessment of this proposal, the EPA has also reviewed the implementation conditions and recommends revised implementation conditions be imposed to the revised proposal (i.e. the amalgamation of the existing approved proposals and this proposal), if the Minister decides that it may be implemented. Appendix 4 sets out the EPA's review of the Ministerial Statements for the approved proposals and Appendix 5 sets out the EPA's recommended environmental conditions for the revised proposal.

These conditions include the following:

- references to an updated riparian vegetation management plan (Condition 5); and
- an updated Offset condition (Condition 7) requiring the proponent to contribute additional funds to a government established conservation offset fund to counterbalance the significant residual impacts on vegetation in 'Good to Excellent' condition.

## 5. Other advice

### Hydrological Processes

The EPA notes that there is an increasing number of approved and proposed projects in the Eastern Ashburton River catchment that propose to discharge surplus water from dewatering into local tributaries of the Ashburton River, including the Beasley and Hardey rivers, and smaller tributaries such as Duck Creek. The EPA's view is that the cumulative impacts are at a level that warrants further evaluation.

Accordingly, in addition to demonstrating that proponents have fully investigated the Department of Water preferred options for surplus water use outlined in the *Western Australian water in mining guideline* (Department of Water, 2013), the EPA's view is that all proponents of future proposals in the Eastern Ashburton catchment should clearly explain how the incremental impacts of the proposal (including of surface water discharge) will be managed, when added to the past, present and reasonably foreseeable future proposals.

## **6. Recommendations**

That the Minister for Environment notes:

1. that the proposal being assessed is a change to the Western Turner Syncline Iron Ore Project – Revised Proposal;
2. the key environmental factors identified by the EPA in the course of its assessment are set out in Section 3;
3. the EPA has concluded that the proposal may be implemented to meet the EPA's objectives, provided the implementation of the proposal is carried out in accordance with the recommended revised conditions and procedures set out in Appendix 5. The EPA's review of the Ministerial Statements is provided in Appendix 4; and
4. the EPA's other advice presented in Section 6 in relation to Hydrological Processes.

# **Appendix 1**

## **References**

DMP & EPA 2015, *Guidelines for Preparing Mine Closure Plans*, Department of Mines and Petroleum and Environmental Protection Authority, May 2015, Perth, Western Australia.

Department of Water 2013, *Western Australian water in mining guideline*, Water licensing delivery series Report no. 12, May 2013, Perth.

EPA 2000, *Position Statement No. 2: Environmental Protection of Native Vegetation in WA*, Environmental Protection Authority, December 2000.

EPA 2002, *Position Statement No. 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection*, Environmental Protection Authority, March 2002.

EPA 2006, *Guidance Statement No. 6: Guidance for the Assessment of Environmental Factors - Rehabilitation of Terrestrial Ecosystems*, Environmental Protection Authority, June 2006.

EPA 2004a, *Guidance Statement No. 51 – Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact in Western Australia*. Environmental Protection Authority, June 2004.

EPA 2004b, *Guidance Statement No. 56: Guidance for the Assessment of Environmental Factors - Terrestrial Fauna Surveys for Environmental Impact in Western Australia*, Environmental Protection Authority, June 2004.

EPA 2012, *Environmental Assessment Guideline No. 1 (– Defining the key characteristics of a proposal (EAG 1)*, Environmental Protection Authority, May 2012.

EPA 2013a, *Environmental Protection Bulletin No. 19 – EPA Involvement in Mine Closure*, Environmental Protection Authority, July 2013, Perth, Western Australia.

EPA 2013b, *Environmental Assessment Guideline for Consideration of subterranean fauna in environmental impact assessment in Western Australia (EAG 12)*, June 2013, Perth

EPA 2014a, *Cumulative environmental impacts of development in the Pilbara region*, Advice of the Environmental Protection Authority to the Minister for Environment under Section 16(e) of the *Environmental Protection Act 1986*, August 2014, Perth

EPA 2014b, *Environmental Protection Bulletin No. 1 – Environmental offsets*, Environmental Protection Authority, August 2014, Perth, Western Australia.

EPA 2015a, *Environmental Assessment Guideline for Environmental Principles, Factors and Objectives (EAG 8)*, January 2015, Perth.

EPA 2015b, *Environmental Assessment Guideline for Application of a Significance Framework in the Environmental Impact Assessment Process* (EAG 9), January 2015, Perth.

EPA 2015c, *Environmental Assessment Guideline for Preparation of an API – Category A Environmental Review Document* (EAG 14) January 2015, Perth

EPA 2015d, *Environmental Assessment Guideline No. 17 – Preparation of management plans under Part IV of the Environmental Protection Act 1986* (EAG17), Environmental Protection Authority, August 2015.

EPA 2015e, *Environmental Assessment Guideline No. 11 – Recommending environmental conditions* (EAG 11), Environmental Protection Authority, Revised August 2015.

Government of Western Australia 2011, *WA Environmental offsets policy*, September 2011, Perth

Government of Western Australia 2014, *WA Environmental offsets guidelines*, August 2014, Perth

Rio Tinto 2015, *Western Turner Syncline Iron Ore Project: Revised Proposal Environmental Review Document*, Rio Tinto on behalf of Hamersley Iron Pty Limited, November 2015.

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## **Appendix 2**

### **Summary of Identification of Key Environmental Factors and Principles**

## Summary of identification of key environmental factors

Environmental Factors	Proposal Characteristics	Evaluation of whether a factor is a key environmental factor
<b>LAND</b>		
Flora and Vegetation	<p>The proposal would result in clearing up to 750 ha of Good to Excellent condition vegetation within the Hamersley IBRA sub-region bringing the total clearing to 4,350 ha.</p> <p>Surveys found that no Declared Rare Flora (DRF), Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) were located within the development envelope. One Priority 1 (P1) flora species <i>Hibiscus</i> sp. Mt Brockman (E Thoma ET 1354) may potentially be impacted. <i>Goodenia</i> sp. aff. <i>pedicellata</i> was also recorded within the development envelope. <i>Goodenia</i> sp. aff. <i>pedicellata</i> is under taxonomic review and likely to be assigned a P1 status.</p> <p>The Department of Parks and Wildlife advised that the proponent should avoid and minimise impacts to individuals of P1 flora species <i>Hibiscus</i> sp. Mt Brockman (E Thoma ET 1354) and <i>Goodenia</i> sp. aff. <i>pedicellata</i> wherever possible.</p> <p>Dewatering and discharge of excess water to creeks may impact groundwater dependent vegetation. <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus victrix</i> communities have both been classified as potential groundwater dependent vegetation (GDV) units but are considered tolerant (<i>E. camaldulensis</i> subsp. <i>refulgens</i>) or relatively tolerant (<i>E. victrix</i>) to waterlogging.</p>	<p>Having regard to the impacts of clearing 'Good to Excellent' condition vegetation in the Pilbara, potential impacts to priority flora species and impacts to riparian vegetation along the Hardey River from discharge of surplus mine dewater, the <b>EPA identified Flora and Vegetation as a key environmental factor.</b></p>

Environmental Factors	Proposal Characteristics	Evaluation of whether a factor is a key environmental factor
Subterranean Fauna	<p>Four troglobitic fauna were collected within the development envelope. The development of mine pits would result in the loss and degradation of habitat. Surveys indicate that subterranean communities within the development envelope are not of conservation value based on genetic analysis and habitat based assessments. Habitat containing troglofauna is extensive and continuous outside the project area.</p> <p>No stygofauna have been collected within the development envelope.</p>	<p>Having regard to EAG 12 – <i>Consideration of subterranean fauna in EIA in WA</i> (EPA, 2013b) and EAG 9 - <i>Application of a Significance Framework in the Environmental Impact Assessment Process</i> (EPA, 2015b) and given:</p> <ul style="list-style-type: none"> <li>• the extensive nature of troglofauna habitat outside the development envelope and;</li> <li>• the absence of stygofauna species within the development envelope,</li> </ul> <p>the EPA considers that it is unlikely that the proposal would have a significant impact on subterranean fauna and the proposal can meet the objectives for this factor. Accordingly, <b>the EPA did not identify Subterranean Fauna as a key environmental factor.</b></p>
Terrestrial Fauna	<p>The proponent has undertaken surveys across the proposal area. Two types of habitat ('gorge and gullies' and 'eucalypt woodlands on major watercourses') were identified as higher habitat value for conservation significant fauna species. The additional clearing required for this proposal (750 ha) may impact on these habitat types, however they are considered to be well represented in the Hamersley IBRA subregion and the increase in clearing represents a relatively small increase in total clearing within the development envelope.</p> <p>Impacts to eucalypt woodlands along the Hardey and Beasley rivers would be minimised by the requirements of the Riparian Vegetation Management and</p>	<p>Having regard to the results of surveys carried out in accordance with Guidance Statement No. 56 <i>Terrestrial Fauna Surveys for Environmental Impact Assessment in WA</i> (EPA, 2004b) and given:</p> <ul style="list-style-type: none"> <li>• the small scale of the increase in area of clearing,</li> <li>• the requirements to minimise impacts to riparian vegetation under the flora and vegetation factor; and</li> </ul>

Environmental Factors	Proposal Characteristics	Evaluation of whether a factor is a key environmental factor
	<p>Monitoring Plan that is recommended as a condition under the Flora and Vegetation key environmental factor.</p> <p>No caves that represent suitable habitat for Pilbara Leaf-Nosed Bats or Ghost Bats have been recorded. Potential foraging habitat for the Pilbara Olive Python occurs along major drainage lines in the development envelope.</p>	<ul style="list-style-type: none"> <li>conservation significant fauna species do not occur in large numbers in the development envelope,</li> </ul> <p>the EPA considers that it is unlikely that the proposal would have a significant impact on terrestrial fauna and the proposal can meet the objectives for this factor. Accordingly, <b>the EPA did not identify Terrestrial Fauna as a key environmental factor.</b></p>
<b>WATER</b>		
Hydrological Processes	<p>Additional dewatering of up to 7.3 GL/a would be required for the proposal. This additional surplus dewater from the Section 10 Hub is proposed to be discharged, with a wetting front of up to 15 km, into the northern branch of the Hardey River.</p> <p>It is considered that this discharge volume would be smaller than the volume generated by the catchment during flood events. Based on the modelled results, discharged water would be contained within the low flow channel and overtopping of the creek banks in dry conditions is not anticipated.</p> <p>As the proposal is within a proclaimed groundwater area, the take of any water requires licensing from the DoW in accordance with the <i>Rights in Water and Irrigation Act 1914</i>. There is an existing licence for the Western Turner Syncline proposal. The increased dewatering for the revised proposal would require amendment to the existing groundwater abstraction licence under the <i>Rights in Water and Irrigation Act 1914</i> and would therefore be subject to the Department of Water licensing process.</p>	<p>Having regard to the increase in dewatering required for the revised proposal and the potential significant impacts of subsequent surface discharge of surplus dewater to the Hardey River, <b>the EPA identified Hydrological Processes as a key environmental factor.</b></p>

Environmental Factors	Proposal Characteristics	Evaluation of whether a factor is a key environmental factor
Inland Waters Environmental Quality	<p>The development of mine pits could impact water quality through the excavation of shales that are potentially acid forming. While the proponent does not anticipate excavating acid forming shales, management measures such as encapsulation would be put in place.</p> <p>Surplus water from dewatering would be discharged to the Hardey River which could alter the water quality of the creek. However, analysis of groundwater quality from the Section 10 Hub indicated that there is unlikely to be a substantial change in groundwater quality when discharged to the surface.</p> <p>The discharge also requires regulation from the Department of Environment Regulation under Part V of the EP Act.</p>	<p>Having regard to:</p> <ul style="list-style-type: none"> <li>the similar quality of the discharge water to the water quality in the Hardey River; and</li> <li>that discharge requires regulation from the Department of Environment Regulation;</li> </ul> <p>the EPA considers that it is unlikely that the proposal would have a significant impact on inland waters environmental quality and the proposal can meet the objectives for this factor. Accordingly, <b>the EPA did not identify Inland Waters Environmental Quality as a key environmental factor.</b></p>
<b>INTEGRATING FACTORS</b>		
Rehabilitation and Decommissioning	<p>Mining would occur below the water table for S10 BRK, MM East and MM West. While MM East and MM West would be backfilled to above groundwater level, S10 BRK would not, resulting in the formation of a pit lake at closure. Pit lakes may pose a general health and safety risk to the public due to potential adverse water quality over time.</p> <p>Potential acid forming (PAF) material, predominantly of low-moderate geochemical risk, is present in low volumes in the S10 BRK pit. Mining could expose the PAF causing acid and metalliferous drainage (AMD), and potentially impact soil and groundwater quality.</p> <p>Mining Tenure for this proposal has been granted under the <i>Iron Ore (Hamersley Range) Agreement Act 1963</i>, and therefore would not be subject</p>	<p>Consistent with the <i>Guidelines for Preparing Mine Closure Plans</i> (DMP &amp; EPA, 2015) and Environmental Protection Bulletin No. 19 <i>EPA Involvement in Mine Closure</i> (EPA, 2013a), the EPA assesses Rehabilitation and Decommissioning for proposals that are not subject to the <i>Mining Act 1978</i>.</p> <p><b>Therefore the EPA identified Rehabilitation and Decommissioning as a key environmental factor.</b></p>

Environmental Factors	Proposal Characteristics	Evaluation of whether a factor is a key environmental factor
	to the <i>Mining Act 1978</i> (however approvals are still required under the <i>Mines Safety and Inspection Act 1994</i> ).	
Offsets	The revised proposal would result in the additional clearing up to 750 ha of 'Good to Excellent' condition vegetation within the Hamersley IBRA sub-region.	<p>Consistent with the <i>WA Environmental offsets guidelines</i> (Government of Western Australia, 2014) and the <i>WA Environmental Offsets Policy</i> (Government of Western Australia, 2011), where the cumulative impact is already at a critical level a significant residual impact relating to cumulative impacts will require an offset. The EPA considers that the clearing of 'Good to Excellent' condition vegetation in the Pilbara region is a significant residual environmental impact which requires an offset to counterbalance the impacts.</p> <p><b>Therefore the EPA identified Offsets as a key environmental factor.</b></p>

## Summary of identification of principles

Principle	Consideration
<b>Environmental principles of the EP Act</b>	
<p>1. The precautionary principle</p> <p><i>Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.</i></p> <p><i>In application of this precautionary principle, decisions should be guided by –</i></p> <p><i>a) careful evaluation to avoid, where practicable, serious or irreversible damage to the environment; and</i></p> <p><i>b) an assessment of the risk-weighted consequences of various options.</i></p>	<p>In considering this principle, the EPA notes that Flora and Vegetation and Hydrological Processes could be significantly impacted by this proposal. The assessment of these impacts is provided in this report.</p> <p>Investigations on the biological and physical environment undertaken by the proponent have provided sufficient certainty to assess risks and identify measures to avoid or minimise impacts. The EPA has recommended conditions to ensure relevant measures are undertaken by the proponent.</p>
<p>2. The principle of intergenerational equity</p> <p><i>The present generation should ensure that the health, diversity and productivity of the environment is maintained and enhanced for the benefit of future generations.</i></p>	<p>In considering this principle, the EPA notes that the proponent has taken measures to avoid, minimise, rehabilitate (and offset) impacts in accordance with the mitigation hierarchy in the <i>WA Environmental offsets guidelines</i> (Government of Western Australia, 2014). In assessing this proposal the EPA has recommended adaptive management mechanisms (through conditions requiring environmental management plans) be implemented to maintain ecological processes. In addition the EPA recommends that mine closure and rehabilitation requirements are imposed to ensure that the post-mine environment is ecologically sustainable. The EPA has also recommended an offset for the cumulative loss of native vegetation in 'Good to Excellent' condition.</p>
<p>3. The principle of the conservation of biological diversity and ecological integrity</p>	<p>In considering this principle, the EPA notes that the proposal would result in impacts to Priority flora species. In assessing the proposal the EPA has considered these</p>

Principle	Consideration
<p><i>Conservation of biological diversity and ecological integrity should be a fundamental consideration.</i></p>	<p>impacts and has taken into account measures proposed by the proponent to minimise impacts to the affected species. The EPA has concluded that the proposal would not compromise the biological diversity or ecological integrity within this IBRA region.</p>
<p>4. Principles relating to improved valuation, pricing and incentive mechanisms</p> <p>(1) <i>Environmental factors should be included in the valuation of assets and services.</i></p> <p>(2) <i>The polluter pays principles – those who generate pollution and waste should bear the cost of containment, avoidance and abatement.</i></p> <p>(3) <i>The users of goods and services should pay prices based on the full life-cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste.</i></p> <p>(4) <i>Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structure, including market mechanisms, which enable those best placed to maximise benefits and/or minimize costs to develop their own solution and responses to environmental problems.</i></p>	<p>In considering this principle, the EPA notes that the proponent would bear the cost relating to waste and pollution, including avoidance, containment, decommissioning, rehabilitation and closure. The proponent would also be responsible for the costs relating to rehabilitation and decommissioning, and offsets for significant residual impacts.</p>
<p>5. The principle of waste minimisation</p> <p><i>All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.</i></p>	<p>In considering this principle, the EPA notes that much of the waste rock from the proposal would be used to backfill pits. Other waste products created as a result of implementation of the proposal would be disposed of according to relevant regulations and legislation.</p>

Principle	Consideration
<b>Environmental principles of the EPA</b>	
<p>1. Best practice</p> <p><i>When designing proposals and implementing environmental mitigation and management actions, the contemporary best practice measures available at the time of implementation should be applied.</i></p>	<p>In considering this principle, the EPA notes that the proponent has designed the proposal to use waste material to backfill pits, which is preferred by the EPA and has proposed mitigation measures manage the potential impacts and risks,. These measures are already in place for existing Western Turner Syncline operations, as well as other iron ore mines that the proponent operates in the Pilbara.</p>
<p>2. Continuous improvement</p> <p><i>The implementation of environmental practices should aim for continuous improvement in environmental performance.</i></p>	<p>The proponent operates under a management system which sets out a framework of adaptive management.</p> <p>The EPA has recommended conditions requiring the development of environmental management plans. As outlined in EAG 17 - <i>Preparation of management plans under Part IV of the Environmental Protection Act 1986</i> (EPA, 2015d), the EPA encourages adaptive management and continual improvement through environmental management plans.</p>

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## **Appendix 3**

**Relevant EPA Policies and Guidance and considerations**

The EPA reviewed its policies and guidance documents to determine their relevance to the assessment of the proposal.

The review only includes policy and guidance for environmental factors relevant to the proposal (i.e. an iron ore mine proposal in the Pilbara region of WA). Where a policy or guidance document for a particular environmental factor is relevant to the proposal, but the environmental factor was not determined to be a key environmental factor, then it was deemed not relevant for the assessment of the proposal.

## **1. Flora and Vegetation**

The EPA's environmental objective for this factor is *to maintain representation, diversity, viability and ecological function at the species, population and community level.*

The EPA has determined that the policy and guidance relevant for Flora and Vegetation for this assessment are:

- Guidance Statement No. 51 – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in WA (EPA, 2004a);
- Position Statement No. 2 – Environmental Protection of Native Vegetation in WA (EPA, 2000); and
- Position Statement No. 3 – Terrestrial Biological Surveys as an Element of Biodiversity Protection (EPA, 2002).

### ***Guidance Statement No. 51 – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in WA***

Guidance Statement No. 51 provides the general standards and common framework for terrestrial flora and vegetation surveys for environmental assessment in Western Australia. The relevant considerations in Guidance Statement No. 51 for this assessment are:

1. Surveys are planned and designed appropriately.
2. The analysis, interpretation and reporting is of a suitable quality and consistent methodology to enable the EPA to judge the impacts of proposals on flora and vegetation.
3. The environment, in particular significant flora and vegetation biodiversity, is identified and protected.

### ***Position Statement 2 – Environmental Protection of Native Vegetation in Western Australia***

Position Statement No. 2 provides guidance on the clearing of native vegetation with a particular emphasis on clearing in agricultural areas of Western Australia. The relevant considerations in Position Statement No. 2 for this assessment are:

1. No known species of plant or animal is caused to become extinct as a consequence of the development and the risks to threatened species are considered to be acceptable.
2. No association or community of indigenous plants or animals ceases to exist as a result of the project.

3. There would be an expectation that a proposal would demonstrate that the vegetation removal would not compromise any vegetation type by taking it below the “threshold level” of 30% of the pre-clearing extent of the vegetation type.
4. Where a proposal would result in a reduction below the 30% level, the EPA would expect alternative mechanisms to be put forward to address the protection of biodiversity.
5. There is a comprehensive, adequate and secure representation of scarce endangered habitats within the project area and/or in areas which are biologically comparable to the project area, protected in secure reserves.
6. The on-site and off-site impacts of the project are identified and the proponent demonstrates that these impacts can be managed.

### ***Position Statement 3 – Terrestrial Biological Surveys***

Position Statement No. 3 sets out the EPA’s broad expectations with regards to the provision of biological survey data for environmental impact assessment and states that the quality of information and scope of field surveys should meet the requirements and protocols as determined and published by the EPA.

The relevant considerations in Position Statement No. 3 for this assessment are:

1. The EPA adopts the definition of Biological Diversity and the Principles as defined in the National Strategy for the Conservation of Australia’s Biological Diversity (Commonwealth of Australia, 1996) and will have regard for these in undertaking its role (*Note: this strategy has been replaced by Australia’s Biodiversity Conservation Strategy 2010-2030 (Natural Resource Management Council 2010)*).
2. The EPA expects proponents to demonstrate in their proposals that all reasonable measures have been undertaken to avoid impacts on biodiversity. Where some impact on biodiversity cannot be avoided, it is for the proponent to demonstrate that the impact will not result in unacceptable loss.
3. In the absence of information that could provide the EPA with assurance that biodiversity will be protected, the EPA will adopt the precautionary principle.

## **2. Hydrological Processes**

The EPA’s environmental objective for this factor is *to maintain hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.*

The EPA has determined that there is no EPA policy or guidance relevant to Hydrological Processes for this assessment.

### **3. Rehabilitation and Decommissioning**

The EPA's environmental objective for this factor is *to ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner.*

The EPA has determined that the policy and guidance relevant for Rehabilitation and Decommissioning for this assessment are:

- Guidance Statement No. 6 – *Rehabilitation of Terrestrial Ecosystems* (EPA, 2006);
- Environmental Protection Bulletin No. 19 – *EPA involvement in mine closure* (EPA, 2013a); and
- Guidelines for preparing mine closure plans (DMP & EPA, 2015).

#### ***Guidance Statement No. 6 – Rehabilitation of Terrestrial Ecosystems***

The purpose of Guidance Statement No. 6 is to ensure the return of biodiversity in rehabilitated areas by increasing the quality, uniformity, and efficiency of standards and processes for rehabilitation of native vegetation in Western Australia and to allow more effective monitoring and auditing of outcomes.

The relevant considerations in Guidance Statement No. 6 for this assessment are:

1. Information about the diversity of plants and their capacity to recruit from seeds.
2. The setting of rehabilitation objectives that take into account the complexity of constraints to effective rehabilitation.
3. The setting of completion criteria that are attainable in realistic timeframes and ensure rehabilitation objectives have been met.
4. The use of similar rehabilitation objectives and completion criteria within particular industries and within geographical regions when appropriate.
5. Life of mine approaches are required where financial and logistical planning required for effective rehabilitation occurs early in the life of projects (ANZMEC 2000).

#### ***Environmental Protection Bulletin No. 19 – EPA involvement in mine closure***

The relevant consideration in Environmental Protection Bulletin No. 19 for this assessment is that the EPA will assess all mining projects that are not subject to the *Mining Act 1978*.

#### ***Guidelines for preparing mine closure plans***

The relevant considerations in the *Guidelines for preparing mine closure plans* for this assessment are:

1. Proponents should prepare a Mine Closure Plan in accordance with these guidelines to meet Western Australian regulatory requirements.
2. Where the EPA concludes that Rehabilitation and Decommissioning is a Key Integrating Factor in its EPA report on the proposal, the EPA will recommend a

condition requiring a Mine Closure Plan to be prepared that is consistent with these guidelines.

#### **4. Offsets**

The EPA's environmental objective for this factor is *to counterbalance any significant residual environmental impacts or uncertainty through the application of offsets*.

The EPA has determined that the policy and guidance relevant for offsets for this assessment are:

- *WA Environmental offsets policy* (Government of Western Australia, 2011);
- *WA Environmental offset guidelines* (Government of Western Australia, 2014); and
- Environmental Protection Bulletin No. 1 - *Environmental Offsets* (EPA, 2014b)

##### ***WA Environmental offsets policy***

The relevant considerations in the offsets policy for this assessment are:

1. Environmental offsets will take account of, and contribute towards, broader State Government conservation objectives through existing programs, policies, initiatives and strategic funds.
2. Environmental offsets are to be applied in specified circumstances in a transparent manner to engender certainty and predictability.
3. Environmental offsets will only be considered after avoidance and mitigation options have been pursued.
4. Environmental offsets will be cost-effective, as well as relevant and proportionate to the significance of the environmental value being impacted.
5. Environmental offsets will be applied within a framework of adaptive management.
6. Environmental offsets will be focussed on longer term strategic outcomes.

##### ***WA Environmental offsets guidelines***

The relevant considerations in the offsets guidelines for this assessment are:

1. Environmental offsets will only be applied where the residual impacts of a project are determined to be significant, after avoidance, minimisation and rehabilitation have been pursued.
2. Proponents must apply the mitigation hierarchy (avoid, minimise, rehabilitate and offset) to reduce the potential impacts of a proposal on the environment.
3. Significant residual impacts that may require an offset: Any significant residual impact to potentially threatened species and ecosystems, areas of high environmental value or where the cumulative impact is already at a critical level.
4. Strategic approaches to offsets, such as a fund, provide a coordination mechanism to implement offsets across a range of land use tenures and can achieve better environmental outcomes by considering offsets at a landscape scale.

## ***Environmental Protection Bulletin No. 1 – Environmental Offsets***

The relevant considerations in Environmental Protection Bulletin No. 1 for this assessment are:

1. The EPA adopts the *WA Environmental offset policy* and *WA Environmental offset guidelines* for application through the environmental impact assessment process.
2. Where the EPA is of the view that a significant residual impact remains after avoidance, minimisation and rehabilitation efforts, the EPA will ensure that any offsets are recommended as conditions of approval in the EPA's report to the Minister for Environment, as well as including details on the rationale for the offset.
3. As part of an Environmental Review document, proponents must include a section discussing how it has applied the mitigation hierarchy to its proposal. Offsets should be addressed in a separate section of the document, after the assessment of environmental factors.

# **Appendix 4**

**Review of existing Ministerial Statements**

## **Proposed Implementation Agreement (Ministerial Statement)**

The EPA recommends that the revised proposal may be implemented and further recommends that the implementation of the revised proposal be subject to the Implementation Agreement (Ministerial Statement) set out in Appendix 5.

The recommended Ministerial Statement has been developed in accordance with Environmental Assessment Guideline No. 11 *Recommending Environmental Conditions* (EP, 2015e) and Environmental Assessment Guideline No. 17 *Preparation of management plans under Part IV of the Environmental Protection Act 1986* (EPA, 2015d) and includes a review of the following implementation conditions:

1. Ministerial Statement 807: Western Turner Syncline, Section 10 Iron Ore Project, Shire of Ashburton, issued on 17 September 2009; and
2. Ministerial Statement 946: Western Turner Syncline Stage 2 – B1 and Section 17 Deposits, issued on 22 August 2013.

The main changes between the proposed new Ministerial Statement and the existing Ministerial Statements relate to:

- removal of clauses relating to standard reporting and data availability in individual conditions as these duplicate clauses in the standard Compliance Reporting and Public Availability of Data conditions;
- removing conditions which are no longer applicable;
- removing duplication;
- updating conditions to refer to approved environmental management plans (this includes information relating to discharge to the Hardey River system); and
- updating conditions to reflect contemporary conditions and the requirements of Environmental Assessment Guidelines 11 and 17.

### ***Recommended changes to environmental conditions***

Particular changes of note are:

- Condition 6 of Ministerial Statement 807 refers to *Goodenia* sp. Pilbara calcrete which was a Priority 1 species at the time of the assessment that lead to Statement 807. This species has since been renamed *Goodenia* sp. East Pilbara and is currently classified as a Priority 3 species. The EPA recommends removal of this condition to reflect the current conservation status.
- Condition 7 of Ministerial Statement 807 refers to the Short Range Endemic species *Nemesiidae* sp. This species is no longer considered a short range endemic species and the EPA recommends removal of this condition to reflect the results of this study.
- Condition 8 of Ministerial Statement 807 and Condition 6 of Ministerial Statement 946 contain requirements relating to the management of the water quality of dewater discharge. The EPA considers that water quality can be adequately managed by the Department of Environment Regulation under the licensing requirements of Part V of the EP Act.

### ***Recommended changes to proposal details (Schedule 1)***

The proposal details contained in Schedule 1 have been amended to include an updated description which reflects the EPA's contemporary approach to project descriptions detailed in Environmental Assessment Guideline No. 1 *Defining the Key Characteristics of a Proposal* (Appendix 5, Table 2). The location and authorised extent of physical and operational elements in Schedule 1 includes the additional clearing proposed for this proposal. The proponent has also defined the development envelope and corresponding amount of existing clearing for elements of the proposal not previously defined (Appendix 5, Table 2). The limit on the discharge of dewatering into the Hardey River has also been included.

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# **Appendix 5**

## **Identified Decision-making Authorities and Recommended Environmental Conditions**

## Identified Decision-making Authorities

Section 44(2) of EP Act specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

<b>Decision-making Authority</b>	<b>Approval</b>
1. Minister for Environment	<i>Wildlife Conservation Act 1950</i>
2. Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i>
3. Minister for Lands	<i>Land Administration Act 1997</i>
4. Minister for Mines and Petroleum	<i>Mining Act 1978</i>
5. Minister for State Development	<i>Iron Ore (Hamersley Range) Agreement Act 1963</i>
6. Minister for Water	<i>Rights in Water Irrigation Act 1914</i>
7. CEO Department of Environment Regulation	Part V of the <i>Environmental Protection Act 1986</i>
8. Chief Dangerous Goods Officer, Department of Mines and Petroleum	<i>Mines Safety and Inspection Act 1994</i>
9. Chief Dangerous Goods Officer, Department of Mines and Petroleum	<i>Dangerous Goods Safety Act 2004</i>

Note: In this instance, agreement is only required with DMAs 1 to 6 since these DMAs are Ministers.

RECOMMENDED ENVIRONMENTAL CONDITIONS

**STATEMENT THAT A REVISED PROPOSAL MAY BE IMPLEMENTED**  
**(*Environmental Protection Act 1986*)**

WESTERN TURNER SYNCLINE IRON ORE PROJECT – REVISED PROPOSAL

**Proposal:** Proposal to revise Western Turner Syncline, Section 10 Iron Ore Project the subject of Statement No. 807, dated 17 September 2009; and Western Turner Syncline Stage 2 – B1 and Section 17 Deposits the subject of Statement No. 946 dated 22 August 2013

**Proponent:** Hamersley Iron Pty Limited  
Australian Company Number 004 558 276

**Proponent Address:** 152-158 St Georges Terrace  
Perth WA 6000

**Assessment Number:** 2072

**Report of the Environmental Protection Authority:** 1565

**Previous Assessment Numbers:** 1786 and 1925

**Previous Reports of the Environmental Protection Authority:** 1325 and 1477

**Previous Statement Numbers:** 807 and 946

Pursuant to section 45, read with section 45B of the *Environmental Protection Act 1986*, it has been agreed that:

1. the Proposal described and documented in Schedule 1 may be implemented;
2. the implementation of the Proposal is subject to the following revised implementation conditions; and
3. from the date of this Statement each of the implementation conditions in Statements 807 and 946 no longer apply in relation to the Proposal:

## **1 Proposal Implementation**

- 1-1 When implementing the Proposal, the proponent shall not exceed the authorised extent of the Proposal as defined in Table 2 in Schedule 1, unless amendments to the Proposal and the authorised extent of the Proposal have been approved under the EP Act.

## **2 Contact Details**

- 2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

## **3 Compliance Reporting**

- 3-1 The proponent shall prepare, submit and maintain a Compliance Assessment Plan to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 3-6, or prior to implementation, whichever is sooner.
- 3-2 The Compliance Assessment Plan shall indicate:
- (1) the frequency of compliance reporting;
  - (2) the approach and timing of compliance assessments;
  - (3) the retention of compliance assessments;
  - (4) the method of reporting of potential non-compliances and corrective actions taken
  - (5) the table of contents of Compliance Assessment Reports; and
  - (6) public availability of Compliance Assessment Reports.
- 3-3 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 3-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 3-1.
- 3-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 3-1 and shall make those reports available when requested by the CEO.
- 3-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.
- 3-6 The proponent shall submit to the CEO a Compliance Assessment Report by 30 April each year addressing compliance in the previous calendar year, or as agreed in writing by the CEO. The first Compliance Assessment Report shall be submitted by 30 April 2017 addressing the compliance for the period from the date of issue of this Statement, notwithstanding that the first reporting period may be less than 12 months.

- The Compliance Assessment Report shall:
  - (1) be endorsed by the proponent's CEO or a person delegated to sign on the CEO's behalf;
  - (2) include a statement as to whether the proponent has complied with the conditions;
  - (3) identify all potential non-compliances and describe corrective and preventative actions taken;
  - (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and
  - (5) indicate any proposed changes to the Compliance Assessment Plan required by condition 3-1.

#### **4 Public Availability of Data**

4-1 Subject to condition 4-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

4-2 If any data referred to in condition 4-1 contains particulars of:

- (1) a secret formula or process; or
- (2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make these data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

#### **5 Riparian Vegetation (Flora and Vegetation)**

5-1 Within 6 months of issue of this Statement, the proponent shall prepare and submit a Condition Environmental Management Plan to the satisfaction of the CEO. This plan shall demonstrate that the following **environmental outcome** will be met.

- (1) Maintain the health of riparian vegetation of the Beasley and Hardey River Systems.

5-2 The Condition Environmental Management Plan shall:

- (1) specify the **environmental outcome** to be achieved, as specified in condition 5-1;
- (2) specify **trigger criteria** that must provide an early warning that the threshold criteria identified in condition 5-2(3) may not be met;
- (3) specify **threshold criteria** to demonstrate compliance with the environmental outcome specified in condition 5-1. Exceedance of the threshold criteria represents non-compliance with these conditions;
- (4) specify **monitoring** to determine if trigger criteria and threshold criteria are exceeded;

- (5) specify **trigger level actions** to be implemented in the event that trigger criteria have been exceeded;
  - (6) specify **threshold contingency actions** to be implemented in the event that threshold criteria are exceeded; and
  - (7) provide the format and timing for the reporting of monitoring results against trigger criteria and threshold criteria to demonstrate that condition 5-1 has been met over the reporting period in the Compliance Assessment Report required by condition 3-6.
- 5-3 After receiving notice in writing from the CEO that the Condition Environmental Management Plan satisfies the requirements of condition 5-2, the proponent shall:
- (1) implement the provisions of the Condition Environmental Management Plan; and
  - (2) continue to implement the Condition Environmental Management Plan until the CEO has confirmed by notice in writing that the proponent has demonstrated the objective specified in condition 5-1 has been met.
- 5-4 In the event that monitoring indicates exceedance of the threshold criteria specified in the Condition Environmental Management Plan, the proponent shall:
- (1) report the exceedance in writing to the CEO within 7 days of the exceedance being identified;
  - (2) implement the threshold contingency actions specified in the Condition Environmental Management Plan within 24 hours and continue implementation of those actions until the CEO has confirmed by notice in writing that it has been demonstrated that the threshold criteria are being met and the implementation of the threshold contingency actions is no longer required;
  - (3) investigate to determine the cause of the threshold criteria being exceeded;
  - (4) investigate to determine potential environmental harm or alteration of the environment that occurred due to the threshold criteria being exceeded; and
  - (5) provide a report to the CEO within 21 days of the exceedance being reported as required by condition 5-4(1). The report shall include:
    - (a) details of threshold contingency actions implemented;
    - (b) the effectiveness of the threshold contingency actions implemented, against the threshold criteria;
    - (c) the findings of the investigations required by condition 5-4(3) and 5-4(4);
    - (d) measures to prevent the threshold criteria being exceeded in the future; and
    - (e) measures to prevent, control or abate the environmental harm which may have occurred.
- 5-5 The proponent:
- (1) may review and revise the Condition Environmental Management Plan, or
  - (2) shall review and revise the Condition Environmental Management Plan as and when directed by the CEO.

5-6 The proponent shall implement the latest revision of the Condition Environmental Management Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 5-2.

5-7 The proponent shall continue to implement the Western Turner Syncline Stage 2 Riparian Vegetation Management Plan (RTIO-HSE-0217011, 28 March 2014) until the CEO has confirmed by notice in writing that the plan required by condition 5-1 satisfies the requirements of condition 5-2.

## **6 Rehabilitation and Decommissioning**

6-1 The proponent shall ensure that the proposal is decommissioned and rehabilitated in an ecologically sustainable manner, through the implementation of the Mine Closure Plan required by condition 6-2.

6-2 Within six months of the issue of this Statement, the proponent shall prepare and submit a Mine Closure Plan in accordance with the *Guidelines for Preparing Mine Closure Plans*, May 2015, and any updates, to the requirements of the CEO.

6-3 The proponent shall review and revise the Mine Closure Plan required by Condition 6-2 at intervals not exceeding three years, or as otherwise specified by the CEO.

6-4 The proponent shall implement the latest revision of the Mine Closure Plan, which the CEO has confirmed in writing satisfies the requirements of Condition 6-2.

## **7 Offsets**

7-1 In view of the significant residual impacts and risks as a result of implementation of the proposal, the proponent shall contribute funds for the clearing of 'Good to Excellent' condition native vegetation in the Hamersley IBRA subregion, and calculated pursuant to condition 7-2. This funding shall be provided to a government established conservation offset fund or an alternative offset arrangement providing an equivalent outcome as determined by the Minister.

7-2 The proponent's contribution to the initiative identified in condition 7-1 shall be paid biennially, the first payment due in the two years after commencement of additional ground disturbance defines in Table 2 of Schedule 1. The amount of funding will be \$750 AUD (excluding GST) per hectare of 'Good to Excellent' condition native vegetation cleared within the Development Envelope (delineated in Figure 2 and defined by the geographic coordinates in Schedule 2) within the Hamersley IBRA subregion.

7-3 The 530 ha of clearing for the iron ore mine, the 20 km of clearing in the linked infrastructure and 220 km of clearing for the maximum footprint, including borrow pits previously approved under Ministerial Statement 807 and Part V Clearing Permit 4581/1, is exempt from the requirement to offset under condition 7-2.

7-4 Within twelve months of the date of this statement, the proponent shall update the previously approved Impact Reconciliation Procedure (RTIO-HSE-0165630, dated 18 September 2013) to the satisfaction of the CEO.

7-5 The Impact Reconciliation Procedure required pursuant to condition 7-4 shall:

- (1) include a methodology to identify clearing of 'Good to Excellent' condition native vegetation in the Hamersley IBRA subregion;

- (2) require the proponent to submit spatial data identifying areas of 'Good to Excellent' condition native vegetation that has been cleared;
- (3) include a methodology for calculating the amount of clearing undertaken during each biennial time period; and
- (4) state dates for the commencement of the biennial time period and for the submission of results of the Impact Reconciliation Procedure, to the satisfaction of the CEO.

7-6 The proponent shall implement the Impact Reconciliation Procedure required by condition 7-4.

7-7 The real value of contributions described in condition 7-2 will be maintained through indexation to the Perth Consumer Price Index, with the first adjustment to be applied to the first contribution.

**Table 1: Summary of the Proposal**

<b>Proposal Title</b>	Western Turner Syncline Iron Ore Project
<b>Short Description</b>	<p>The proposal is to develop above and below water table iron ore deposits and associated infrastructure at Western Turner Syncline, approximately 20 km west of Tom Price in the Pilbara Region.</p> <p>The Western Turner Syncline Project involves open-pit mining of iron ore deposits above and below the groundwater table and the construction and operation of associated infrastructure.</p>

**Table 2: Location and authorised extent of physical and operational elements**

<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
<b>Element</b>	<b>Location</b>	<b>Authorised Extent</b>
Mine and associated infrastructure	Figure 1	Clearing of no more than 4,350 ha within the development envelope of 15,836 ha.
Surplus dewater management	Figure 1	Disposal through controlled dewater discharge to: <ul style="list-style-type: none"> <li>• Beasley River. The wetting front to extend no further than 20 km downstream of the designated discharge point under natural no-flow conditions.</li> <li>• Hardey River. The wetting front to extend no further than 15 km downstream of the designated discharge point under natural no-flow conditions.</li> </ul>
Backfilling of mine pits	Figure 1	The following mine pits are to be backfilled to a level which will not allow the formation of permanent pit lakes: <ul style="list-style-type: none"> <li>• Section 17 mine pits 3 and 8; and</li> <li>• Section 10 MM East and MM West pits</li> </ul>

**Table 3: Abbreviations and Definitions**

<b>Acronym or Abbreviation</b>	<b>Definition or Term</b>
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i>
OEPA	Office of the Environmental Protection Authority
ha	Hectare

**Figures (attached)**

Figure 1 Western Turner Syncline Development Envelope (This figure is a representation of the coordinates referred to in Schedule 2)

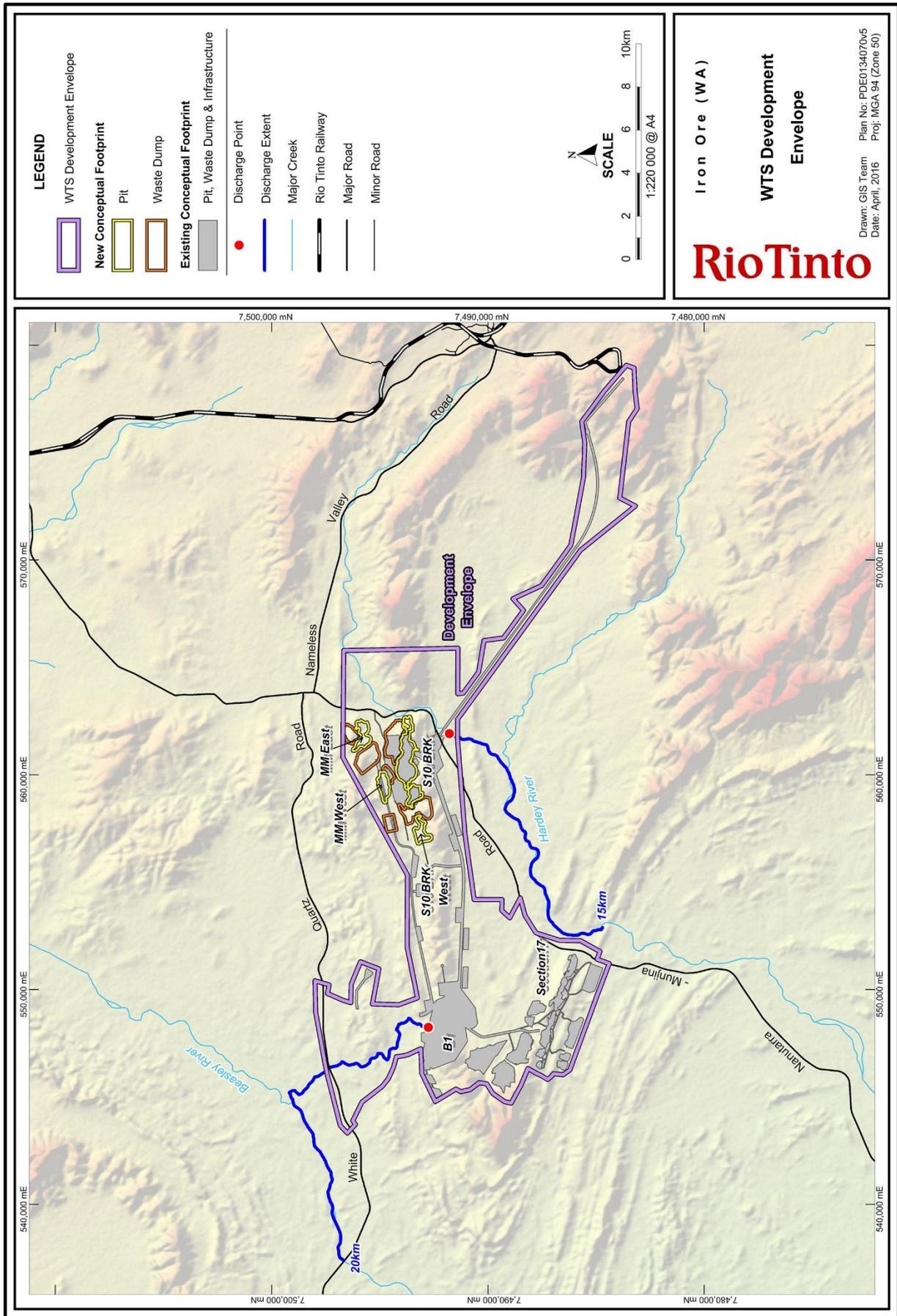


Figure 1: Western Turner Syncline Development Envelope

## **Schedule 2**

### **Geographic spatial data coordinates**

Coordinates defining the Development Envelope are held by the Office of the Environmental Protection Authority, Document Reference Number 2015-1447742809076, dated 17 November 2015.

# **Appendix 6**

## **Proponent's API Environmental Review documentation**

Provided on CD in hardcopies of this report and on the EPA's website at  
[www.epa.wa.gov.au](http://www.epa.wa.gov.au)