



Report and recommendations of the Environmental Protection Authority



Marandoo Iron Ore Project – Revised Proposal

Hamersley Iron Pty Limited

Report 1558

August 2015

Assessment on Proponent Information Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
04/02/2015	Level of assessment set	
08/07/2015	Proponent submitted final Environmental Review information	22
16/07/2015	EPA meeting	1
12/08/2015	EPA report provided to the Minister for Environment	4
17/08/2015	Publication of EPA report (3 working days after report provided to the Minister)	3 days
31/08/2015	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.



Dr Paul Vogel
Chairman

12 August 2015

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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 proposal by Hamersley Iron Pty Limited to revise the currently operating Marandoo Iron Ore Project. The Minister has nominated Hamersley Iron Pty Limited 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:

- what the EPA considers to be the key environmental factors identified 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 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). The document describes 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 4).

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 to revise the operating Marandoo Iron Ore Project located approximately 37 km east of Tom Price and 77 km north-east of Paraburdoo in the central Pilbara region (Figure 1).

The approved project includes an open-cut iron ore mine and associated infrastructure, as well as parts of the Central Pilbara Railway. The mining component of the project is confined to the Marandoo mine lease which was excised from Karijini National Park in 1991 and is bounded by the park on three sides. The approved Project is currently authorised under Ministerial Statements 286, 598, and 833.

The Marandoo Iron Ore Project – Revised Proposal includes:

- total clearing of up to 3,749 hectares (ha) (additional clearing of up to 400 ha) within the proposed Mine/Plant Development Envelope) (Figure 2);
- definition of development envelopes for the entire Marandoo Iron Ore Project (Figure 2 and Figure 3); and
- revisions to the key proposal characteristics.

The proposed total clearing for the revised proposal is up to 3,749 ha (an additional 400 ha) within a total development envelope area of 6,030 ha. The additional clearing is required to for the ongoing management of subsoil and topsoil resources, surface water management, and operational requirements across the mine (Figure 4).

The main characteristics of the proposal are summarised in Tables 1 and 2. A detailed description of the proposal is provided in the proponent's API Document (Rio Tinto 2015) which is attached as Appendix 4.

Table 1: Summary of key proposal characteristics

Proposal Title	Marandoo Iron Ore Project
Proponent name	Hamersley Iron Pty Limited
Short Description	<p>The proposal is to revise the existing Marandoo Iron Ore Project located approximately 37 km east of Tom Price in the Pilbara region of Western Australia.</p> <p>The Marandoo Iron Ore Project involves open-pit mining of iron ore deposits above and below the groundwater table and the construction and operation of associated infrastructure including the operation of a 115 km railway from Rosella Siding to Homestead Junction with a spur loop at Marandoo and three sidings (Eagle, Juna Downs, and Dove).</p> <p>The Marandoo Mining Lease (G47/01237 and M272A Sec 001) abuts Karijini National Park.</p>

Table 2: Proposal elements

Element	Location	Authorised Extent
Mine and associated infrastructure	Figure 2	<p>Clearing of no more than 2,502 ha of native vegetation (which includes the additional clearing of 400 ha) within the 4,657 ha Mine/Plant Development Envelope.</p> <p>(Additional clearing of 400 ha)</p>
Camp	Figure 2	<p>Clearing of no more than 95 ha of native vegetation within the 221 ha Camp Development Envelope.</p> <p>(No change)</p>
Linear Infrastructure	Figure 3	<p>Clearing of no more than 1,152 ha of native vegetation within the 1,152 ha Linear Infrastructure Development Envelope.</p> <p>(No change)</p>
Dewatering	Figure 2	Abstraction of no more than 36.5 gigalitres per annum.
Surplus dewater management	Figure 2	<p>Surplus dewater management options include use on-site and camp, transfer to Tom Price town, re-injection at the Southern Fortescue Borefield, irrigated agriculture, and discharge to the environment.</p> <p>Controlled dewater disposal to a local surface water tributary to extend no further than 20 km downstream of the discharge point under natural no-flow conditions.</p>
Backfilling of mine pits	Figure 3	Mine pits are to be backfilled to a level which will not allow the formation of permanent pit lakes.

The potential impacts of the proposal identified by the proponent and their proposed management are detailed in Tables 6-5 and 8-1 of the Environmental Review document (Appendix 4, 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:

- minimising impacts to vegetation through development of a minimal additional disturbance footprint;
- minimising clearing required for waste dumps through disposal of waste rock within mine pits; and
- progressive rehabilitation of 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 of the proponent's environmental review document (Appendix 4, 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.

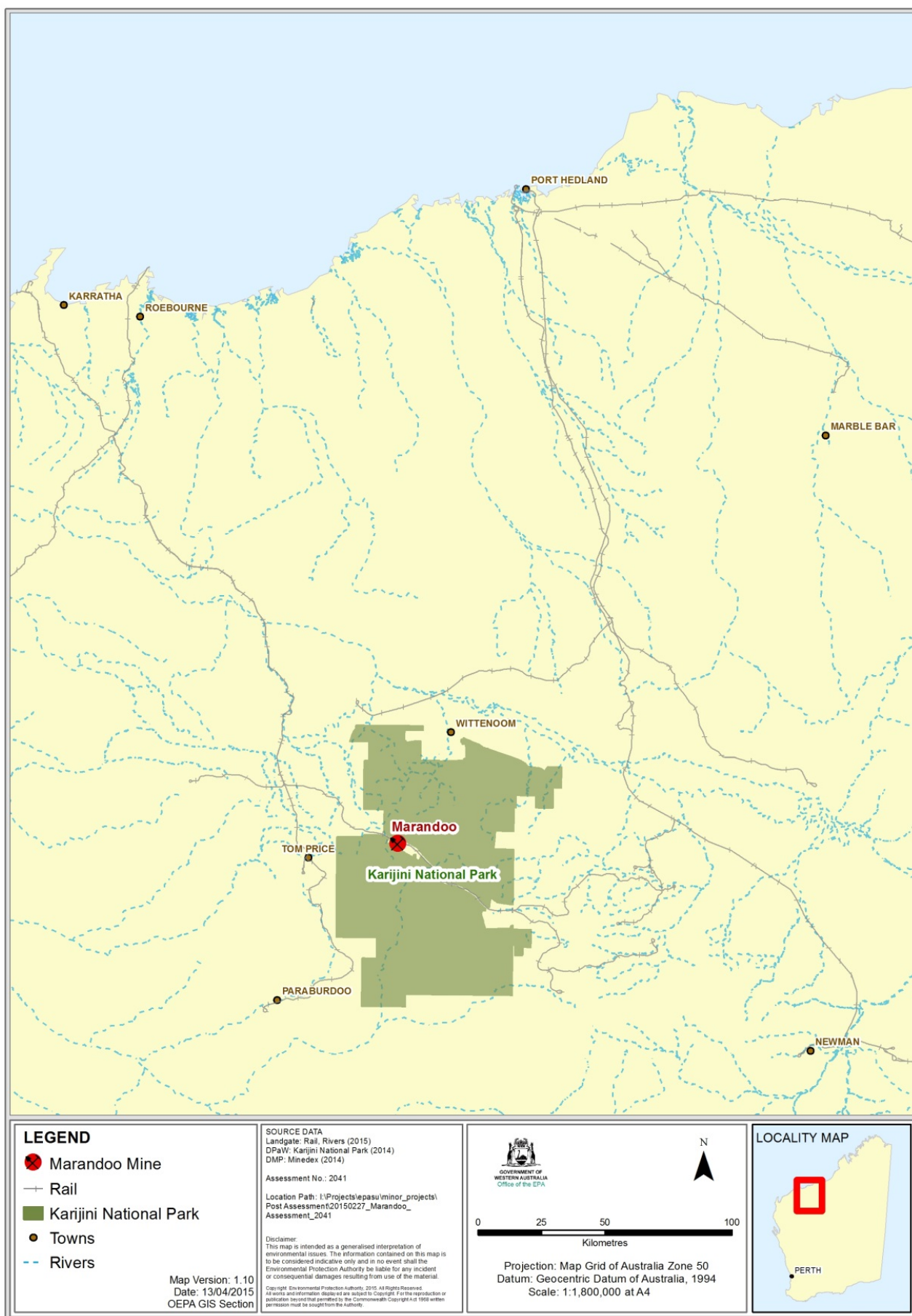


Figure 1: Regional location



Figure 2: Development envelopes

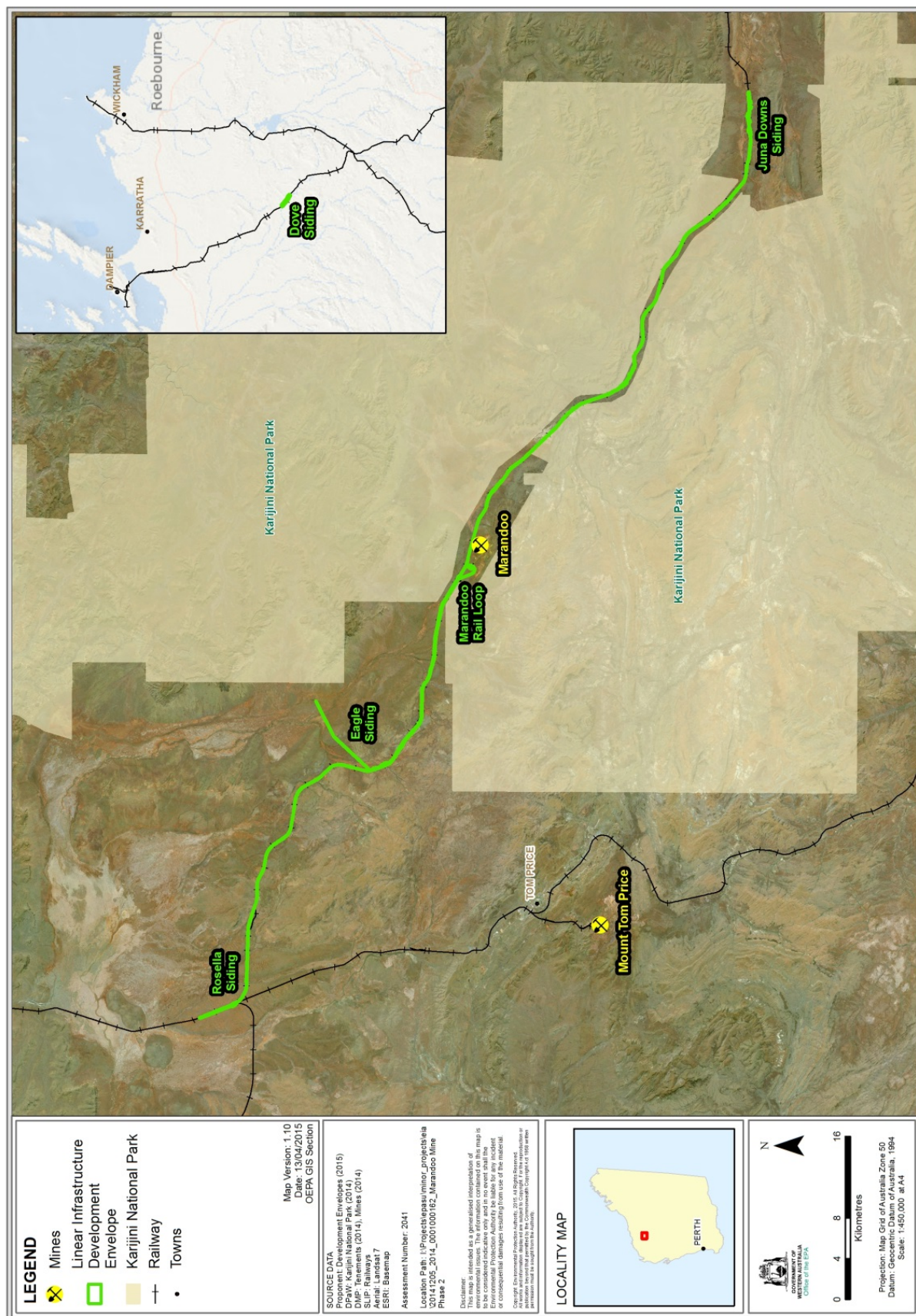


Figure 3: Linear infrastructure Development Envelope



Figure 4: Existing and proposed clearing in the Mine/Plant Development Envelope

3. Key environmental factors

The EPA has identified the following key environmental factors during the course of its assessment of the proposal:

1. **Flora and Vegetation** – direct impacts from the clearing of flora and vegetation within the Mine/Plant Development Envelope; and;
2. **Offsets (Integrating Factor)** – to counterbalance the significant residual impacts to native vegetation in ‘good to excellent’ condition.

The EPA’s assessment of the proposal’s impacts on the key environmental factors is provided in Table 3 below. 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 preparing this report and recommendations, the EPA has had regard for the object and principles contained in s4A of the EP Act.

Other environmental factors which the EPA determined not to be key environmental factors are discussed in the proponent’s Environmental Review (API) document (Appendix 4, Rio Tinto 2015). The EPA considers that impacts to these factors do not require management under Part IV of the EP Act.

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
3.1 Flora and Vegetation <i>To maintain representation, diversity, viability and ecological function at the species, population and community level</i>				
<u>Context</u> <ul style="list-style-type: none"> The Marandoo Mining Lease abuts Karijini National Park (Figures 1 and 2). The proposal area contains vegetation of 'good to excellent' condition. The Marandoo Mine/Plant Development Envelope falls within the Hamersley IBRA subregion. This area is under pressure as a result of cumulative development impacts. <u>Key Survey Findings within the Mine/Plant Development Envelope:</u> <ul style="list-style-type: none"> No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs). No plant species listed as Declared Rare Flora (DRF) under <i>Wildlife Conservation Act 1950</i> or Threatened species under the <i>Environment Protection Biodiversity</i> 	<u>Aspect 1</u> Additional direct clearing for long term management of topsoil and subsoil and to support ongoing mining related activities.	<u>Avoid</u> The proposed clearing is within the existing mining tenements. Known locations of priority flora will be avoided, where possible. <u>Minimise</u> Clearing has been minimised to areas necessary for safe construction and operation. An internal Permit will be obtained for all areas to be cleared in accordance with Rio Tinto's internal approvals system.	The extent of clearing will be authorised through the key characteristics of the proposal in the Ministerial Statement. Condition (10) is recommended requiring that rehabilitation is undertaken in accordance with a Mine Closure Plan. An offset condition (Condition 11) is recommended requiring the proponent to provide an offset for the additional clearing of up to 383 ha of 'good to excellent' native vegetation.	Having particular regard to the: <ul style="list-style-type: none"> absence of DRF, Priority 1 species, TECs and PECs in areas surveyed; widespread nature of the identified vegetation types in the project area; and the significant residual impact of the clearing of up to 383 ha of 'good to excellent' condition native vegetation in the Hamersley IBRA subregion, the OEPA considers that the proposal can be managed to meet the EPA's objective for Flora and Vegetation provided

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><i>Conservation Act 1999.</i></p> <ul style="list-style-type: none"> Five Priority listed species were identified. One P2, two P3, and two P4 species, which are considered to occur relatively broadly throughout the Pilbara and are not restricted to the Marandoo locality (Rio Tinto 2015). Weeds are present typically as scattered individuals. <p><u>Impacts</u></p> <ul style="list-style-type: none"> Additional clearing for this proposal would be up to 400 ha, 383 ha of which is considered to be in 'good to excellent' condition. Potential spread of existing weeds and/or introduction of new weeds. 		<p><u>Rehabilitate</u> Disturbed areas will be progressively rehabilitated with native flora species.</p> <p><u>Offset</u> An offset would be provided for clearing of vegetation in 'good to excellent' condition.</p>		<p>that the following conditions are imposed:</p> <ul style="list-style-type: none"> restriction of clearing within the development envelopes (Schedule 1); continued implementation of weed management measures through revised conditions; and an offset being applied to counterbalance the significant residual impact of the clearing of up to 383 ha of good to excellent condition vegetation.
	<p><u>Aspect 2</u> Vehicle and earth movements.</p>	<p><u>Minimise</u> The distribution of target weed species within and adjacent to the Mine/Plant Development Envelope will continue to be mapped and controlled.</p> <p>Weed hygiene procedures for mining machinery entering and leaving the Mine/Plant Development Envelope will continue to be implemented.</p>	<p>Conditions for weed management have been recommended for dewater discharge (condition 7) and rehabilitation and decommissioning (condition 10). These conditions reflect the intent of Ministerial Statement 833 condition 8 and condition 10.</p> <p>A condition (condition 9) has been recommended to formalise general on site weed management during operation, consistent with the intent of condition 9 in Ministerial Statement 286.</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
3.2 Offsets (Integrating Factor) <i>To counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.</i>				
<p><u>Context</u></p> <p>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 16e advice on cumulative impacts of development in the Pilbara Region).</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 proposal would have a significant residual impact of clearing of up to 383 ha of 'good to excellent' condition native vegetation. Consistent with the <i>WA Environmental Offsets Guidelines</i> (2014), a significant residual impact relating to cumulative impacts may require an offset.</p>	<p>Clearing of up to 383 ha of 'good to excellent' condition native vegetation.</p>	<p>The proponent has committed to providing an offset in line with current policies and guidelines.</p>	<p>A condition (condition 11) has been recommended requiring the proponent to provide an offset for the clearing of up to 383 ha of 'good to excellent' condition native vegetation.</p>	<p>The OEPA 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 383 ha of native vegetation in 'good to excellent' condition.</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>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 offsets are limited. The EPA has determined that a possible solution is the establishment of a strategic regional conservation initiative for the Pilbara. The State Government is currently considering how to establish this conservation initiative.</p> <p>The current EPA position is to apply an offset of \$750 per hectare for clearing of 'good to excellent' condition vegetation in the Hamersley IBRA subregion.</p> <p><u>Impacts</u> Clearing of up to 383 ha of 'good to excellent' native vegetation.</p>				

4. Conclusion and recommended conditions

The EPA has concluded that the proposal can be managed to meet the EPA's objectives and recommends that the proposal may be implemented. The EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by Hamersley Iron Pty Limited to develop and operate the already operating Marandoo Iron Ore Project located approximately 37 km east of Tom Price in the Pilbara region of Western Australia is approved for implementation (Appendix 3).

Should the proposal be approved the EPA proposes that a new Ministerial Statement be issued for the Marandoo Iron Ore Project – Revised Proposal that will supersede the existing Ministerial Statements (286, 598 and 833) for the approved project. A summary of the EPA's evaluation of the existing Ministerial Statements is provided in Appendix 2.

Matters addressed in the conditions include the following:

- continued implementation of the intent of the relevant conditions in Ministerial Statements 286, 598 and 833 as set out in the proposed new Ministerial Statement (Appendix 3); and
- a new Offset condition (condition 11) requiring the proponent to contribute funds to a government established conservation offset fund to mitigate for significant residual impacts on vegetation in 'good to excellent' condition.

5. Other advice

The EPA recognises that the Department of Parks and Wildlife administers the *Conservation and Land Management Act 1984* (CALM Act) and is legally responsible for the management of the land, flora and fauna in the Karijini National Park. Although the Mine/Plant Development Envelope and part of the Linear Infrastructure Development Envelope are not subject to the CALM Act they are bounded by the park on three sides and could be indirectly impacted.

A Statement of Mutual Understanding (SMU) and the Terms of Reference (ToR) for the SMU Liaison Group was agreed between the proponent and the Department of Environment and Conservation (now the Department of Parks and Wildlife) in 2010 as a requirement of Ministerial Statement 286. The SMU and ToR provide for a consultative process to address environmental issues relating to the implementation of the Marandoo project and provide details of the commitments the proponent has agreed to fulfil as a component of Ministerial Statement 286, including cooperative programs and consultation with the Department of Parks and Wildlife on:

- information exchange;
- fire management;
- final landform for the site;
- weed and feral animal control; and

- visual amenity.

The proponent informs the Department of Parks and Wildlife of interactions with the National Park at regular SMU Liaison Group meetings, relating to existing conditions, including the weed strategy, Minthicoondunna Spring, the Coolibah Woodland and sinkholes.

The EPA recognises the value of the SMU and ToR and expects the proponent to continue to work in consultation with the Department of Parks and Wildlife to address environmental issues relating to the implementation of the Marandoo project that may impact the National Park under the formalised agreement (ToR).

6. Recommendations

That the Minister for Environment notes:

1. that the proposal being assessed is for the Marandoo Iron Ore Project –Revised Proposal to revise the already operating Marandoo Mine located approximately 37 km east of Tom Price in the central Pilbara region of Western Australia;
2. the key environmental factors identified by the EPA in the course of its assessment 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 conditions and procedures set out in Appendix 3 and summarised in Section 4; and
4. the EPA's other advice presented in Section 5 in relation to summary of other advice.

Appendix 1

References

Rio Tinto 2015, *Marandoo Iron Ore Project – Revised Proposal*, Rio Tinto on behalf of Hamersley Iron Pty Limited, July 2015.

DPaW and Rio Tinto 2010, *Marandoo Statement of Mutual Understanding Terms of Reference*, Department of Environmental Conservation and Rio Tinto, March 2010.

Appendix 2

Review of existing Ministerial Statements

Review of existing Ministerial Statement

Recommended changes to conditions

The three existing Ministerial Statements relating to the Marandoo Project are:

1. 833: Marandoo Mine Phase 2, Shire of Ashburton (to extend below water table), issued in 2010;
2. 598: Hydrological Research Programme at Marandoo. Trial Dewatering Re-injection Test , Karijini National Park, issued in 2004; and
3. 286: Marandoo Iron Ore Mine and Central Pilbara Railway, issued in 1992.

Based on the revised proposal, evaluation of the existing statements and comments received from relevant agencies during consultation, the EPA prepared a proposed new Ministerial Statement (Appendix 3). The main changes between the proposed new Ministerial Statement and 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 that have been met;
- removing duplication;
- updating conditions to refer to approved environment management plans; and
- updating conditions to reflect contemporary conditions.

On advice from the Department of Parks and Wildlife, the EPA has retained the following existing conditions with minor changes only, due to the conservation significance of Karijini National Park and the Themeda Grasslands Threatened Ecological Community (TEC) located outside the proposal development envelopes:

- Ministerial Statement 833: Springs, Pools and Creeklines of Karijini National Park;
- Ministerial Statement 833: Dewater Discharge (relating to potential impacts on Themeda Grasslands and potential impacts of weeds on Karijini National Park); and
- Ministerial Statement 833: Sinkhole Formation.
- Ministerial Statement 286 has been retained in a contemporary form: Management of Weeds.

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 (Appendix 3, Table 1). 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 development envelopes and corresponding amount of existing clearing for elements of the proposal not previously defined (Appendix 3, Table 2).

Proposal characteristics in the existing statements that are not environmentally relevant have been removed.

Appendix 3

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:

Decision-making Authority	Approval
1. Minister for Environment	<i>Wildlife Conservation Act 1950</i>
2. Minister for State Development	<i>Iron Ore (Hamersley Range) Agreement Act 1963</i>
3. Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i>
4. Minister for Water	<i>Rights in Water Irrigation Act 1914</i>
5. District Inspector North and Executive Director Environment Division, Department of Mines and Petroleum	<i>Mining Act 1978</i> <i>Mines Safety and Inspection Act 1994</i>
6. CEO Department of Environment Regulation	Part V of the <i>Environmental Protection Act 1986</i>

Note: In this instance, agreement is only required with DMAs 1 to 4 since these DMAs are Ministers.

RECOMMENDED ENVIRONMENTAL CONDITIONS

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

MARANDOO IRON ORE PROJECT – REVISED PROPOSAL

Proposal: Proposal to revise Marandoo Iron Ore Mine and Central Pilbara Railway, the subject of Statement No. 286 dated 6 October 1992, Statement No. 598 dated 2 July 2002 and Statement No. 833 dated 8 July 2010.

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

Proponent Address: Hamersley Iron Pty Limited
152-158 St Georges Terrace
Perth WA 6000

Assessment Number: 2041

Report of the Environmental Protection Authority: 1558

Previous Assessment Numbers: 599, 1428 and 1686

Previous Reports of the Environmental Protection Authority: 643, 1084 and 1355

Previous Statement Numbers: 286, 598 and 833

The implementation conditions of this Statement supersede the implementation conditions of Statements 286, 598 and 833 in accordance with section 45B of the *Environmental Protection Act 1986*. 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 Table 2 of Schedule 1 may be implemented; and
2. the implementation of the proposal, being the Marandoo Iron Ore Project as amended by this proposal, is subject to the following implementation conditions.

Words and expressions used in this Statement shall have the same respective meanings as in the EP Act or as provided for in Schedule 1 of this Statement.

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 has 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 and maintain a Compliance Assessment Plan to the satisfaction of the CEO.
- 3-2 The proponent shall submit to the CEO the Compliance Assessment Plan required by condition 3-1 within six (6) months of the date of this statement. 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 2016 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 this publically available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.

5 Coolibah Woodland (Flora and Vegetation):

5-1 The proponent shall ensure that groundwater abstraction required for the proposal, and any approved mitigation measures implemented, do not adversely impact the Coolibah Woodlands PEC located within Karijini National Park identified in Figure 1 of Schedule 1 and defined by the geographic coordinates in Schedule 2.

5-2 The proponent shall implement the Coolibah Woodland Management Plan (RTIO-HSE-0124868, June 2015), or any subsequent revisions as approved by the CEO.

5-3 The proponent shall continue to implement the Coolibah Woodland Management Plan (RTIO-HSE-0124898, June 2015), or any subsequent revisions as approved by the CEO, until the CEO has confirmed by notice in writing that it has been demonstrated that the objective in condition 5-1 is being and will continue to be met and therefore the implementation of the management actions are no longer required.

- 5-4 The proponent may review and revise the Coolibah Woodland Management Plan (RTIO-HSE-0124898, June 2015), or any subsequently approved revisions.
- 5-5 The proponent shall review and revise the Coolibah Woodland Management Plan (RTIO-HSE-0124868, June 2015) or any subsequently approved revisions in consultation with the Department of Parks and Wildlife, as and when directed by the CEO.

6 Springs, Pools and Creeklines of Karijini National Park (Hydrological Processes and Flora and Vegetation)

- 6-1 The proponent shall ensure that groundwater abstraction, dewatering and interception of surface water flows required for the project, and any approved mitigation measures implemented, do not adversely affect any of the springs, pools or creeklines in Karijini National Park, or their surrounding vegetation or surrounding Aboriginal heritage sites.
- 6-2 To verify that the requirements of condition 6-1 are met the proponent shall:
 - (1) identify all sites and parameters to be monitored to the satisfaction of the CEO on advice from the Department of Parks and Wildlife;
 - (2) undertake baseline monitoring of water levels and native vegetation health and abundance at all sites identified within the predicted cone of drawdown prior to dewatering;
 - (3) monitor groundwater and/or surface water levels at each of the agreed sites;
 - (4) monitor the health and cover of riparian vegetation at each of the agreed sites; and
 - (5) engage with Aboriginal people recognised as traditional custodians, such as representatives from the Yinhawangka, Banjima and Eastern Guruma People, to monitor the effect of dewatering on Minthicoondunna Spring.
- 6-3 The monitoring required by condition 6-2 is to be carried out to the satisfaction of the CEO, and is to be carried out in such a way that, should a significant decline water levels be detected, it will be possible to determine whether the decline is attributable to the implementation of the proposal or to other causes.
- 6-4 Monitoring required by condition 6-2 shall continue to be implemented until such time as groundwater levels in the proposal area have returned to pre-mining levels, or until such time the CEO determines that monitoring and management actions may cease.
- 6-5 In the event that monitoring required by conditions 6-2 indicates a decline in water levels at any spring, pool or creekline, or in the health and condition of the riparian vegetation:
 - (1) the proponent shall report such findings to the CEO within 7 days of the decline being identified;
 - (2) provide evidence which allows determination of the cause of the decline;
 - (3) if determined by the CEO to be a result of activities undertaken in implementing the proposal, the proponent shall determine actions to be

taken to remediate the decline in consultation with the Department of Parks and Wildlife;

- (4) submit proposed actions to the CEO within 21 days of the determination being made; and
- (5) implement actions to remediate the decline of riparian and groundwater dependent vegetation as approved by the CEO and shall continue until such time as the CEO determines that the remedial actions may cease.

7 Dewater Discharge (Hydrological Processes and Flora and Vegetation)

7-1 The proponent shall ensure that dewatering discharge from the proposal, under natural no-flow conditions, does not impact on the Themeda Grasslands TEC.

7-2 The proponent shall monitor the dewater discharge flow in order to substantiate whether Condition 7-1 is being met.

7-3 Should the flow of dewater not meet the objective of condition 7-1, the proponent shall:

- (1) report such findings to the CEO within 7 days of the exceedance being identified;
- (2) reduce the discharge of dewater to the environment to meet the objective of condition 7-1;
- (3) identify actions in consultation with the Department of Parks and Wildlife to be taken to prevent future exceedances and to remediate any impact resulting from the exceedance, with particular regard to the Themeda Grasslands TEC;
- (4) submit proposed actions to the CEO within 21 days of the determination being made; and
- (5) implement actions identified in condition 7-3(3) as approved by the CEO. These actions shall continue until such time as the CEO determines that they may cease.

7-4 The proponent shall ensure that there is no increase in the variety or distribution of weed species in the vicinity of the dewater discharge channels as a result of dewater discharge to the environment.

7-5 Within six months from the issue of this Statement the proponent shall prepare and submit a Consolidated Weed Baseline Survey Report to the satisfaction of the CEO.

7-6 To verify that the requirements of condition 7-4 are met the proponent shall undertake regular monitoring of weed species and abundance during the operations phase of the proposal, to the satisfaction of the CEO.

7-7 In the event that monitoring required by condition 7-6 indicates an increase in weed species or distribution in comparison to the Consolidated Weed Baseline Survey Report required by condition 7-4, the proponent shall:

- (1) report such findings to the CEO within 21 days of the increase being identified;
- (2) provide evidence of the cause of the increase;

- (3) if determined by the CEO to be a result of activities undertaken in implementing the proposal, submit actions to be taken to remediate the increase, within 21 days of the determination being made to the CEO; and
- (4) implement actions to remediate the increase in weeds species and distribution as approved by the CEO and continue until such time as the CEO determines that the remedial actions may cease.

8 Sinkhole Formation (Hydrological Processes)

- 8-1 The proponent shall conduct all works to ensure that sinkhole formation does not occur as a result of groundwater drawdown related to the proposal.
- 8-2 The proponent shall ensure that any sinkhole formations attributable to the implementation of the proposal are detected in a timely manner using the monitoring strategy and schedule (RTIO-HSE-0136040, February 2012) approved by the CEO, and any subsequent revisions, on advice from the Department of Parks and Wildlife.
- 8-3 Should the monitoring required by condition 8-2 detect potential or actual sinkhole formation within the area of drawdown, the proponent shall:
 - (1) report such findings to the CEO within 7 days of the formation being identified;
 - (2) provide evidence of the cause of the sinkhole formation;
 - (3) if determined by the CEO to be a result of activities undertaken in implementing the proposal, submit actions to be taken to rehabilitate or otherwise manage the sinkhole formation on an ongoing basis in consultation with the Department of Parks and Wildlife, within 21 days of the determination being made to the CEO for approval; and
 - (4) implement actions to rehabilitate or manage the sinkhole formation as approved by the CEO and continue until such time as the CEO determines on advice from Department of Parks and Wildlife that the remedial actions may cease.

9 Management of Weeds (Flora and Vegetation)

- 9-1 The proponent shall ensure that no new species of declared or environmental weeds are introduced into the Mine Plant Development Envelope and Camp Development Envelope as a result of implementation and operation of the proposal, and that the abundance and distribution of existing weeds is not increased as a direct or indirect result of the proposal.
- 9-2 Within twelve months from the issue of this Statement the proponent shall prepare and submit a Weed Baseline Survey Plan to the CEO. The Weed Baseline Survey Plan shall:
 - (1) when implemented, determine the type, location and extent of cover of declared and environmental weeds within the proposal area; and
 - (2) detail the proposed methodology for the Baseline Survey.

- 9-3 After receiving notice in writing from the CEO that the Weed Baseline Survey Plan satisfies the requirements of 9-2, the proponent shall undertake the Weed Baseline Survey in accordance with the Weed Baseline Survey Plan.
- 9-4 On completion of the Weed Baseline Survey the proponent shall report to the CEO on the following:
- (1) completion of the Weed Baseline Survey in accordance with the Weed Baseline Survey Plan; and
 - (2) the results of the Weed Baseline Survey.
- 9-5 Within twelve months from the issue of this Statement, the proponent shall prepare and submit an Operational Weed Management Plan, in consultation with the Department of Parks and Wildlife, to the CEO. The proponent shall continue to implement the Marandoo Weed Action Plan (RTIO-HSE-0151580, May 2015) until the CEO approves the Operational Weed Management Plan. The Operational Weed Management Plan shall:
- (1) when implemented, substantiate and ensure that condition 9-1 is being met;
 - (2) detail the proposed monitoring methodology;
 - (3) identify and spatially define the proposed monitoring sites;
 - (4) detail the proposed frequency and timing of monitoring;
 - (5) specify criteria (trigger criteria) that will trigger the implementation of management and/or contingency actions to ensure the objective of 9-1 is met; and
 - (6) specify management and/or contingency actions to be implemented in the event that the trigger criteria identified required by condition 9-5(5) has been exceeded.
- 9-6 After receiving notice in writing from the CEO that the Operational Weed Management Plan satisfies the requirements of condition 9-5, the proponent shall:
- (1) monitor in accordance with the requirements of the Operational Weed Management Plan; and
 - (2) continue to monitor in accordance with the requirements of the Operational Weed Management Plan until the CEO has confirmed by notice in writing that it has been demonstrated that the objective in condition 9-1 is being and will continue to be met and therefore the implementation of the management actions are no longer required.
- 9-7 In the event that the monitoring specified in the Operational Weed Management Plan indicates that the trigger criteria specified in the Operational Weed Management Plan has been exceeded the proponent shall:
- (1) immediately implement the management and/or contingency actions specified in the Operational Weed Management Plan and continue the implementation of those actions until the trigger criteria are being met, or until the CEO has confirmed by notice in writing that it has been demonstrated that the objective in condition 9-1 is being and will continue to be met and implementation of the management and/or contingency actions is no longer required;

- (2) investigate to determine the likely cause of the trigger criteria being exceeded and identify any additional contingency actions if any required to prevent this in the future; and
 - (3) provide a report to the CEO within 21 days of trigger criteria being exceeded. The report shall include:
 - (a) details of management and/or contingency actions implemented; and
 - (b) the findings of the investigation required by condition 9-7(2).
- 9-8 The proponent may review and revise the Operational Weed Management Plan.
- 9-9 The proponent shall review and revise the Operational Weed Management Plan in consultation with the Department of Parks and Wildlife as and when directed by the CEO.
- 9-10 The proponent shall implement the latest revision of the Operational Weed Management Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of 9-5.

10 Rehabilitation and Decommissioning

- 10-1 The proponent shall ensure that the proposal is decommissioned and rehabilitated in an ecologically sustainable manner such that the post-mining environment is consistent with local land uses, landscapes and ecological values and avoids significant long-term detrimental impacts on the surrounding Karijini National Park, through the implementation of the Mine Closure Plan required by condition 10-2.
- 10-2 Within six months of the issue of this Statement, the proponent shall prepare and submit
- 10-3 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 on advice of the Department of Mines and Petroleum and the Department of Parks and Wildlife. The proponent shall continue to implement the Conceptual Closure Strategy (April 2011) until the CEO approves the Mine Closure Plan.
- 10-4 The proponent shall review and revise the Mine Closure Plan required by condition 10-2 at intervals not exceeding three years, or as otherwise specified by the CEO.
- 10-5 The proponent shall implement the latest revision of the Mine Closure Plan, which the CEO has confirmed by notice in writing, satisfies the requirements of condition 10-2.

11 Offsets

- 11-1 In view of the significant residual impacts and risks as a result of implementation of the proposal, the proponent shall contribute funds to offset the clearing of 'good to excellent' condition native vegetation, in the Hamersley IBRA subregion, and calculated pursuant to condition 11-2. 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.

- 11-2 The proponent's contribution to the initiative identified in condition 11-1 shall be paid biennially, the first payment due in the two years after commencement of additional ground disturbance defined 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 Mine/Plant Area Development Envelope (delineated in Figure 1 and defined by the geographic coordinates in Schedule 2) within the Hamersley IBRA subregion.
- 11-3 The 2,102 ha of clearing in the Mine/Plan Development Envelope, the 95 ha of clearing in the Camp Development Envelope and the 1,152 ha of clearing in the Linear Infrastructure Development Envelope previously approved under Ministerial Statements 286, 598 and 833, and Part V Clearing Permits (1658/1, 2525/2, 3200/1, 3273/2, 3344/1, 3550/2, 3734/3, 3933/2, 5039/2 and 5918/1), is exempt from the requirement to offset under condition 11-2.
- 11-4 Within twelve months of the date of this Statement, the proponent shall prepare an Impact Reconciliation Procedure to the satisfaction of the CEO.
- 11-5 The Impact Reconciliation Procedure required pursuant to condition 11-5 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.
- 11-6 The real value of contributions described in condition 11-2 will be maintained through indexation to the Perth Consumer Price Index, with the first adjustment to be applied to the first contribution.

Schedule 1

Table 1: Summary of the Proposal

Proposal Title	Marandoo Iron Ore Project
Short Description	<p>The proposal is to revise the existing Marandoo Iron Ore Project located approximately 37 km east of Tom Price in the Pilbara region of Western Australia.</p> <p>The Marandoo Iron Ore Project involves open-pit mining of iron ore deposits above and below the groundwater table and the construction and operation of associated infrastructure including a 115 km railway from Rosella Siding to Homestead Junction with a spur loop at Marandoo and three sidings (Eagle, Juna Downs and Dove).</p> <p>The Marandoo Mining Lease (G47/01237 and M272SA Sec 001) abuts the Karijini National Park.</p>

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

Column 1	Column 2	Column 3
Element	Location	Authorised Extent
Mine and associated infrastructure	Figure 1 and Schedule 2	Clearing of no more than 2,502 ha of native vegetation (which includes the additional clearing of 400 ha) within the 4,657 ha Mine/Plant Development Envelope.
Camp	Figure 1 and Schedule 2	Clearing of no more than 95 ha of native vegetation within the 221 ha Camp Development Envelope.
Linear Infrastructure	Figure 2 and Schedule 2	Clearing of no more than 1,152 ha of native vegetation within the 1,152 ha Linear Infrastructure Development Envelope.
Dewatering	Figure 1	Abstraction of no more than 36.5 ggalitres per annum
Surplus dewater management	Figure 1	<p>Surplus dewater management options include use on-site and camp, transfer to Tom Price town, re-injection at the Southern Fortescue Borefield, irrigated agriculture, and discharge to the environment.</p> <p>Controlled dewater disposal to extend along the unnamed creek no further than 20 km downstream of the discharge point under natural no-flow conditions.</p>
Backfilling of mine pits	Figure 1	Mine pits are to be backfilled to a level which will not allow the formation of permanent pit lakes.

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
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.
EP Act	<i>Environmental Protection Act 1986</i>
km	kilometres
GL/a	gigalitres per annum
PEC	Priority Ecological Community
TEC	Threatened Ecological Community
Themeda Grasslands	Themeda grasslands on cracking clays (Hamersley Station, Pilbara). Grassland plains dominated by the perennial Themeda (kangaroo grass) and many annual herbs and grasses

Figures (attached)

Figure 1 Development envelopes (This figure is a representation of the coordinates referred to in Schedule 2)

Figure 2 Marandoo Linear Infrastructure Development Envelope (This figure is a representation of the co-ordinates referred to in Schedule 2)

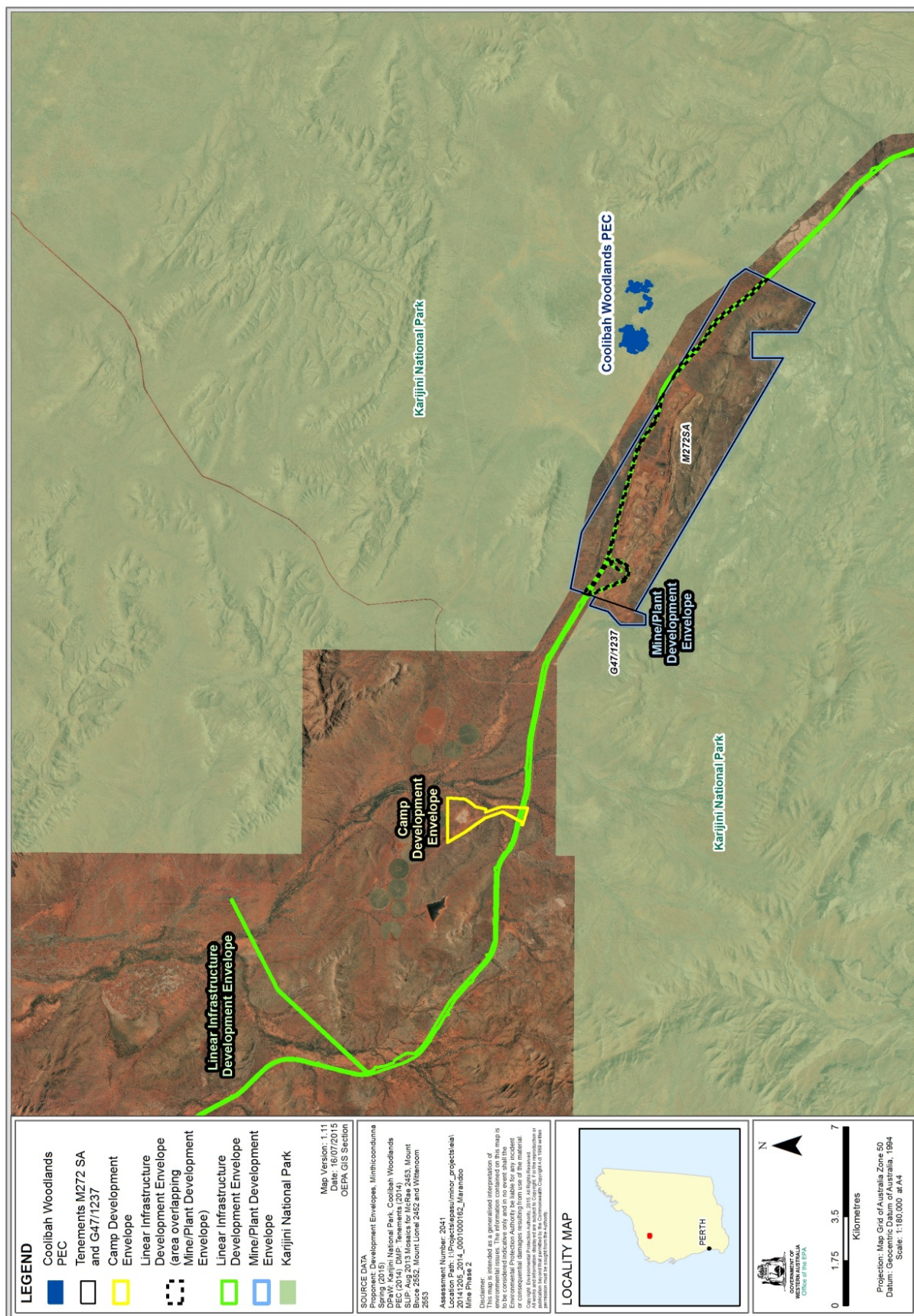


Figure 1: Development envelopes

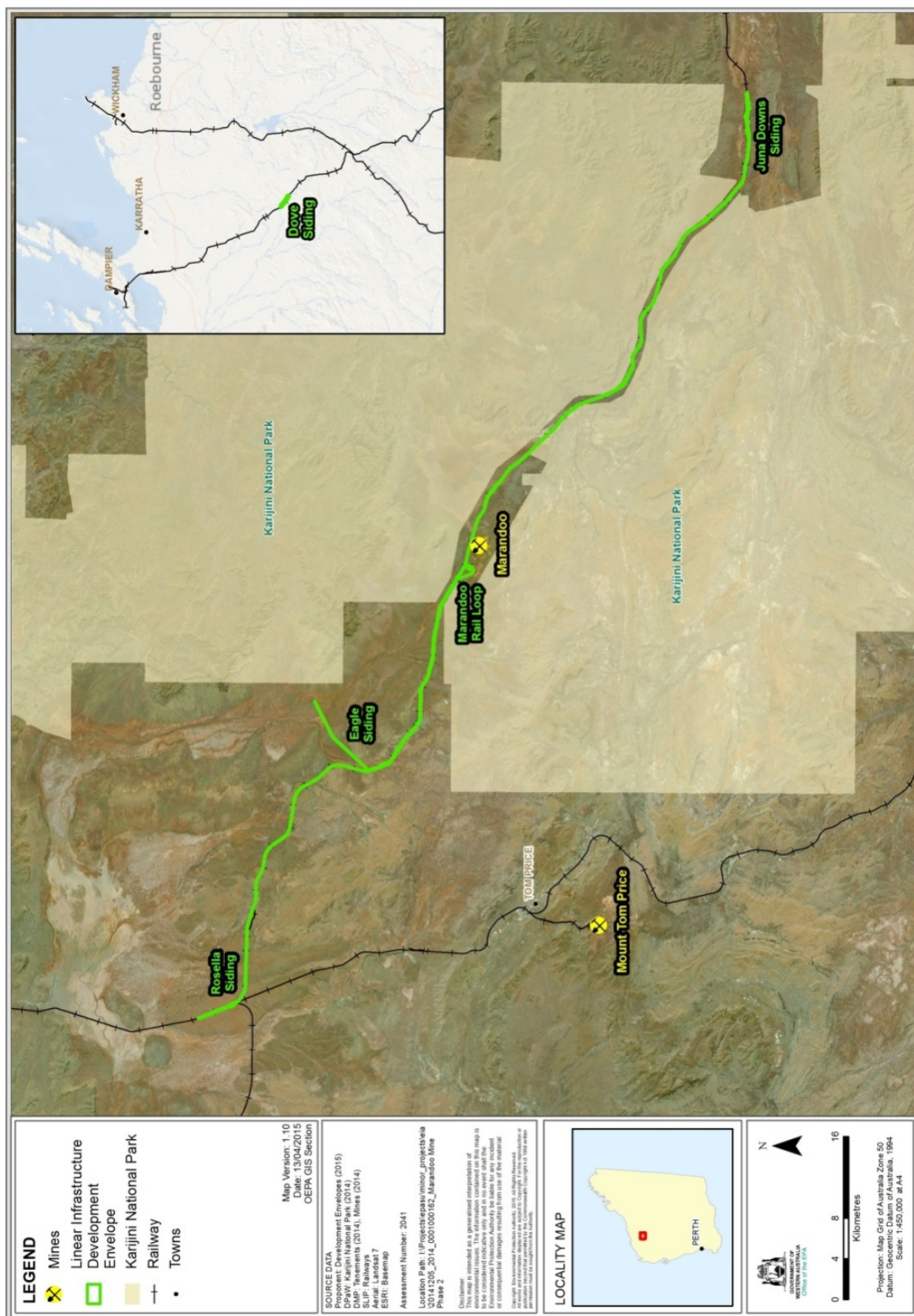


Figure 2: Marandoo Linear Infrastructure Development Envelope

Schedule 2

Geographic spatial data coordinates

Coordinates defining the Development Envelopes and Coolibah Woodland PEC are held by the Office of the Environmental Protection Authority, Document Reference Number 2015-0001190354, dated 11 August 2015.

Appendix 4

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