



Report and recommendations of the Environmental Protection Authority



FerrAus Pilbara Project

FerrAus Pty Limited

Report 1449

September 2012

Assessment on Proponent Information Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
26 Sept 2011	Level of assessment set	
13 Aug 2012	Proponent's Final Assessment on Proponent Information (API)document and information received by Environmental Protection Authority (EPA)	46
17 Sept 2012	Publication of EPA report (3 days after report to Minister)	4
2 Oct 2012	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 September 2012

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1. Introduction and background

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the proposal to expand the FerrAus Pilbara Project by FerrAus Pty Limited (FerrAus).

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

- 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 include in the report any other advice and recommendations as it sees fit.

The proponent has submitted an Assessment on Proponent Information (API) document setting out the details of the proposal, potential environmental impacts and proposed commitments to manage those impacts.

The EPA considers that the proposal, as described, can be managed to meet the EPA's environmental objectives, subject to the EPA's recommended conditions being made legally binding.

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

2. The proposal

FerrAus proposes to expand its operations in the Pilbara region of Western Australia. The proposal area is in the East Pilbara, approximately 80 kilometres (km) east of Newman as shown in Figure 1.

The Robertson Range Iron Ore Project (RRIOP) was approved as a Mining Proposal under the *Mining Act 1978* in November 2009. In 2010 the RRIOP was renamed the FerrAus Pilbara Project (FPP), and consists of the mining and processing of up to 2 million tonnes per annum (Mtpa) of iron ore (from above the water table) at the Robertson Range Area (RRA), and the trucking of product to Port Hedland for export.

An addendum to the approved Mining Proposal to include; a permanent accommodation village, an airstrip and haul/access roads will be considered separately under the *Mining Act 1978* and does not form part of this assessment.

Atlas Iron Limited acquired the FPP in October 2011.

The existing FPP (and those included in the addendum above) do not form part of this assessment. The proposal being assessed by the EPA in this report is the expansion of the FPP, which includes:

- mining of iron ore below the water table at the RRA, and development of an additional deposit within the Davidson Creek Area (DCA);
- increasing the overall mining rate to 15 Mtpa;
- developing additional supporting infrastructure;
- the permanent diversion of Mirrin Mirrin Creek;
- dewatering, and management of surplus water;
- development of a rail loop; and
- construction of a rail line (one of two rail route options).

The location of the project components at RRA, DCA, and the rail route options are shown in Figure 1.

The iron ore would be exported from Port Hedland, however the infrastructure development for this export is being progressed separately by the Port Hedland Port Authority and also does not form part of this assessment.

The main characteristics of the proposal are summarised in Table 1 below.

Table 1: Summary of key proposal characteristics

Physical element	Location	Extent
Twelve open cut mine pits	Davidson Creek area (See Figure 1)	Mining up to 205 m below the water table
Four open cut mine pits	Robertson Range area (See Figure 1)	Mining up to 140 m below the water table
Mine, waste dumps, tailings storage facility, and associated infrastructure	See Figure 2 and geographic coordinates described in Schedule 2	Clearing of up to 4700 ha of native vegetation within the development footprint
Impact of groundwater drawdown on groundwater dependent vegetation	Within the 10 m drawdown contour shown in Figure 2 and geographic coordinates described in Schedule 2	Loss of groundwater dependent vegetation within the 10 m drawdown contour
Railway - one of two options	Option 1: route from project area to Brockman Resources Marillana Project as shown in Figure 1; or Option 2: route from project area to Roy Hill project as shown in Figure 1	Clearing of up to 1640 ha of native vegetation, 980 ha of which is to be rehabilitated; or Clearing of up to 1460 ha of native vegetation, 880 ha of which is to be rehabilitated

The potential impacts of the proposal are discussed by the proponent in the referral document (Strategen, 2012).

The proposal was determined to be a controlled action under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and is being separately assessed at the level of Assessment on Preliminary Documentation by the Commonwealth.

3. Consultation

During the preparation of the API, the proponent has undertaken consultation with government agencies and key stakeholders. The agencies, groups and organisations consulted, the comments received and the proponent's response are detailed in the proponent's referral document (Strategen, 2012).

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.

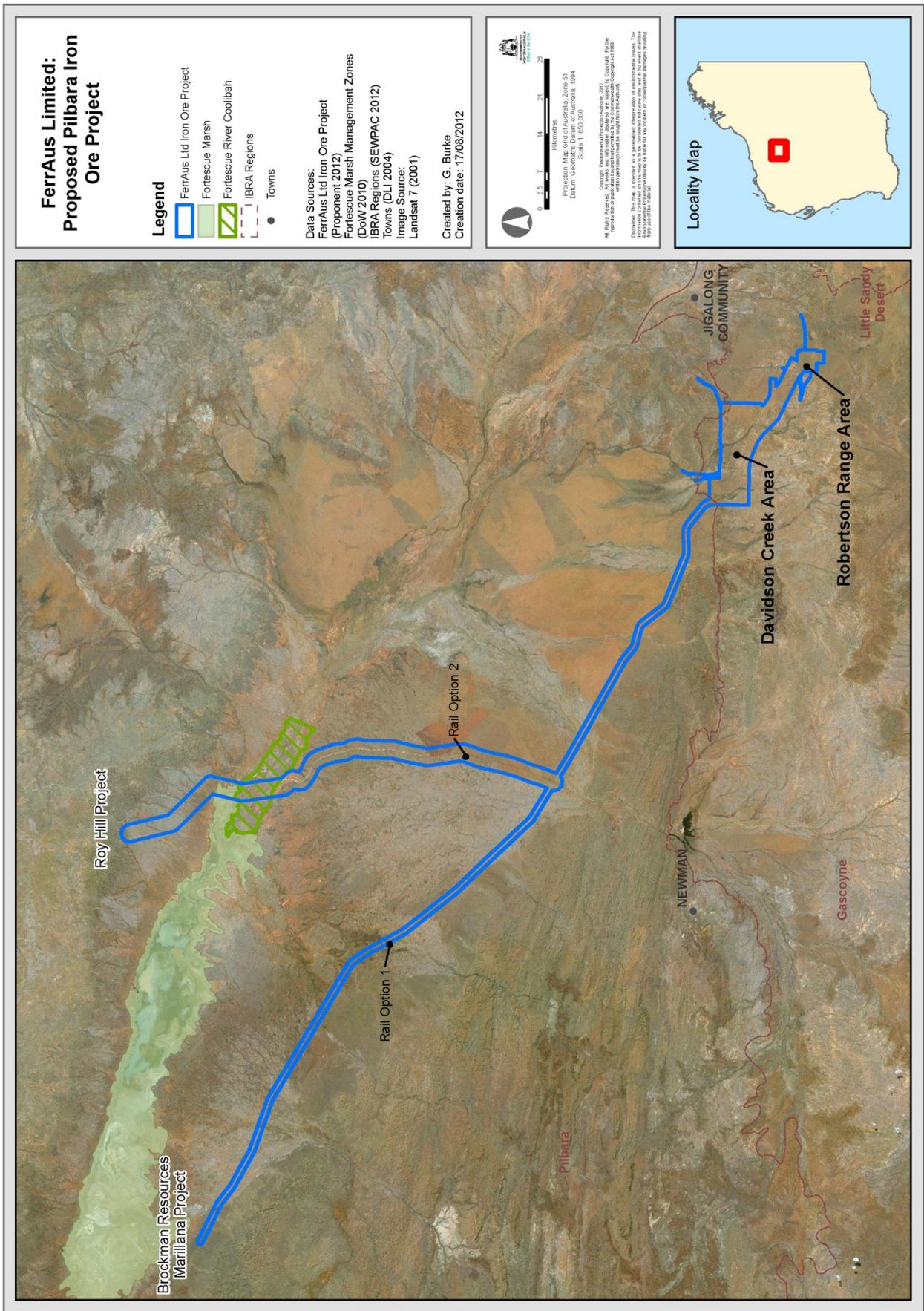


Figure 1. Development envelope of the FerrAus Pilbara Project

4. Key environmental factors

It is the EPA's opinion that the following key environmental factors relevant to the proposal require evaluation in this report:

- (a) Vegetation and fauna habitat;
- (b) Subterranean fauna;
- (c) Surplus dewater disposal; and
- (d) Residual impacts.

The key environmental factors are discussed in Sections 4.1 – 4.4. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor. Appendix 2 summarises the management of some other proposal aspects.

4.1 Vegetation and fauna habitat

Description

The proposal requires the clearing of up to 4700 hectares (ha) of native vegetation for the mine, waste dumps and associated infrastructure. Most of this clearing is located within the Gascoyne Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. An additional 1640 ha of clearing is required for rail option 1 or 1460 ha for rail option 2. This clearing is located within the Pilbara IBRA bioregion. There is also the potential for groundwater dependent vegetation to be further impacted through groundwater drawdown that results from the dewatering necessary to maintain dry mining conditions below the watertable. The development envelope is shown in Figure 1.

The proponent has undertaken a number of surveys of the proposal area and identified and mapped 66 vegetation communities. No Threatened Ecological Communities (TECs) were recorded, and no Declared Rare Flora (DRF) were located during these surveys. Seven Priority Flora species were recorded within the proposal area.

Assessment

The EPA's environmental objectives for this factor are to:

- maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge; and
- protect Declared Rare and Priority Flora, consistent with the provisions of the *Wildlife Conservation Act 1950*.

The Department of Environment and Conservation (DEC) advised that around 850 ha of the mine proposal area (north-east section of DCA) and both rail

routes had not been adequately surveyed for conservation significant species, and recommended that further surveys should be conducted.

The EPA notes that further targeted flora and fauna surveys of these areas are required to identify any species of conservation significance. The EPA has recommended conditions requiring the proponent to undertake the further surveys. Noting that the railway line is ultimately proposed to be established within the wider corridor and there are opportunities to locate infrastructure to reduce impacts at the mine, the recommended conditions require the proponent to take actions to minimise disturbance should species of conservation significance be found (see recommended conditions 7-1, 7-2, 9-5 and 9-6 in Appendix 3).

The route for rail option 2 follows Marble Bar Road and then crosses the eastern section of the Fortescue Marsh. To ensure that implementation of the proposal does not have a significant impact on the Fortescue Marsh, the EPA recommends a condition requiring the proponent to design the rail infrastructure to avoid or minimise the disturbance to samphire, halophytic and riparian vegetation, and to maintain the natural flow regimes (see recommended conditions 7-3, 7-4, 7-5 and 7-6 in Appendix 3).

River Red Gum (*Eucalyptus camaldulensis*) and Coolibah (*E. victrix*) are partially groundwater dependent species that occur within the DCA proposal area. River Red Gum and Coolibah will be cleared for mining and could also be lost through groundwater drawdown. It is estimated that up to 155 ha falls within the 10 metre (m) drawdown zone. The DCA disturbance footprint and the 10 m drawdown contour are shown in Figure 2. The EPA has recommended Condition 6 (Appendix 3) to ensure that the loss of groundwater dependent vegetation is restricted to within the development footprint and the 10 m drawdown contour.

The EPA considers that approval of the proposal should be given for one rail alignment only, and the recommended condition set is written to allow the proponent to implement only one of the railway route options. See the key characteristics table in Schedule 1 of Appendix 3.

Summary

Having particular regard to the:

- the absence of TECs and DRF, and the limited amount of potentially groundwater dependent vegetation impacted by the proposal; and
- recommended conditions requiring further survey and design of the proposal to minimise impacts to conservation significant flora and fauna species,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

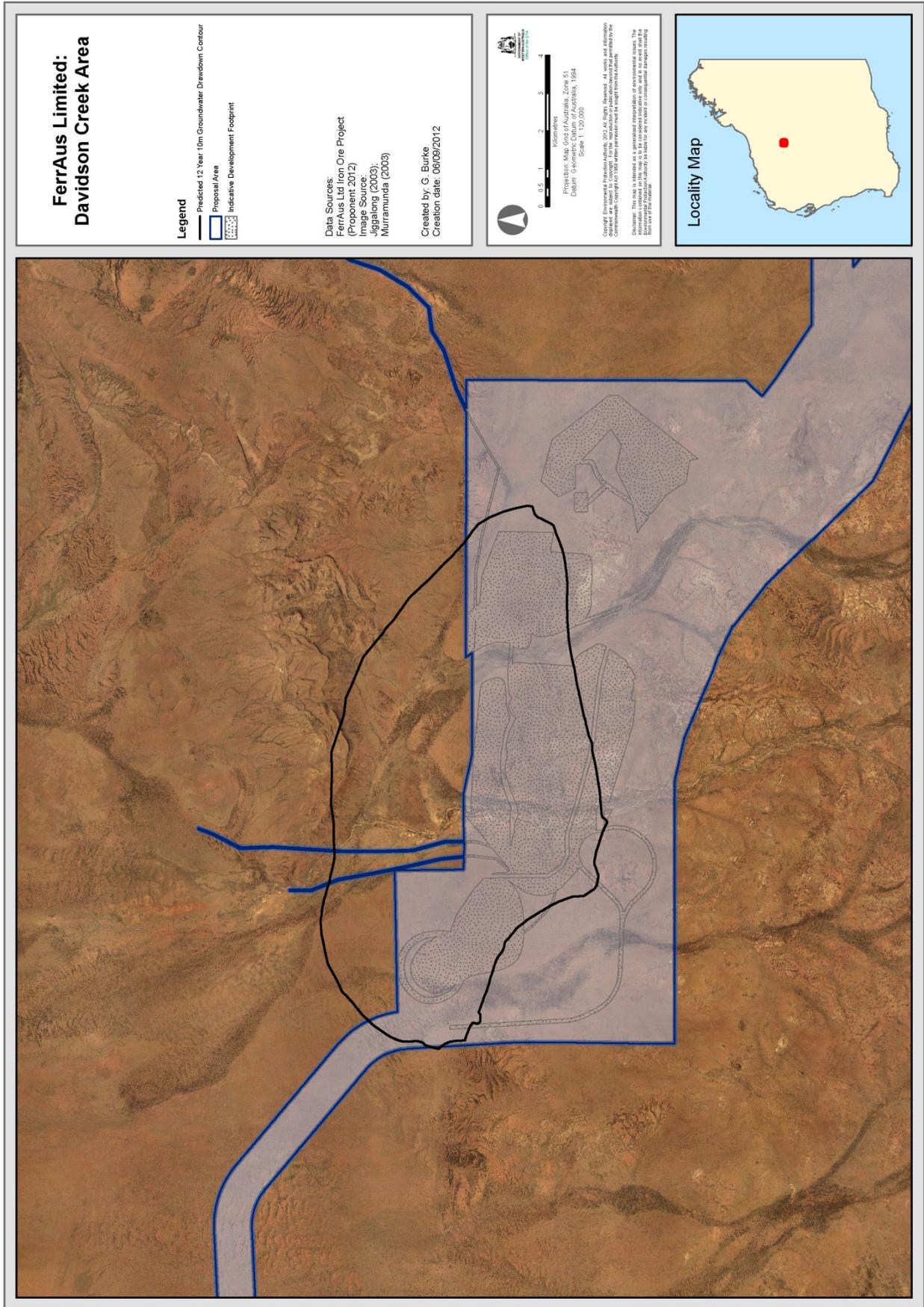


Figure 2. Indicative development envelope and 10 metre drawdown contour for the Davidson Creek Area

4.2 Subterranean fauna

Description

Mining and dewatering will remove and reduce the extent of stygofauna habitat, and remove and alter the humidity levels of troglofauna habitat.

At the RRA, surveys undertaken by the proponent identified a low diversity with only eight species of stygofauna recorded. The distance between the stygofauna sampling sites (RRA) and the similarities of water quality across sampling sites, indicates it is likely that the specimens collected are representative of a widespread population. The proponent has existing approval to mine above the water table at RRA, and no further removal of troglofauna habitat is proposed since this habitat occurs above the water table.

At DCA, the surveys undertaken by the proponent recorded fourteen subterranean species of which only six species were obligate stygofauna. Three of these species of stygofauna were only found within the impact area. However, three of the species were found both within and outside the impact area which demonstrates that there is likely to be connectivity within the subterranean aquifer.

Eight species of troglofauna were found within the DCA impact area only. In most cases only one or two specimens were found. It is possible that some of these species may be restricted to highly localised formations and thus could be significantly affected.

Assessment

The EPA's environmental objective for this factor is to:

- maintain the abundance, diversity, geographic distribution and productivity of subterranean fauna at species and community levels through the avoidance or management of adverse impacts and improvement in knowledge.

The DEC advised that while it is possible that the species of subterranean fauna that were found only within the impact area have wider distributions, further survey effort is required to demonstrate this. The proponent recognises that further survey effort is required and as such, has prepared a Subterranean Fauna Survey Strategy.

This strategy proposes that further survey effort will be completed prior to commencement, and in the event that a risk to the long term survival of subterranean species or communities is identified, management actions would be implemented to mitigate the risk.

The EPA notes that the absence of definitive information on troglofauna at DCA is not ideal, but accepts the Subterranean Fauna Survey Strategy approach in this instance. The EPA recommends that a condition requiring the proponent to implement this Strategy prior to ground disturbing activities be imposed (see recommended Condition 8 in Appendix 3). Recommended Condition 8 also

provides for the proponent to offset the potential residual impacts on subterranean fauna. This is addressed further in section 4.4 below and in recommended Condition 10.

Summary

Having particular regard to the:

- existing subterranean fauna surveys identifying some species which were only found within the impact area;
- possibility that these species will be found through further surveys outside the impact area; and
- recommended Condition 8 which provides for the proponent to identify the risk to the long term survival of subterranean species or communities and provides for management actions to be implemented to mitigate the risk; along with the contingency measures provided for under recommended Condition 10,

it is the EPA's opinion that there is sufficient confidence for the EPA to recommend that conditional approval be granted

4.3 Surplus dewater disposal

Description

In order to mine below the water table at both the DCA and the RRA, dewatering is required, and it is predicted that dewatering rates will need to peak at 11.5 gigalitres per annum to maintain dry mining conditions.

The dewater would be preferentially used onsite as process water, however there is expected to be around 24 megalitres per day (ML/d) of surplus water that would require disposal. The proponent's proposed options for disposal, in order of preference are:

1. onsite use;
2. transfer to the Jigalong community water supply;
3. irrigation of agricultural crops;
4. managed aquifer recharge;
5. discharge to the environment; and
6. irrigation of native vegetation.

After onsite use as process water, the next option is supplementation of the Jigalong community water supply. The Jigalong community water supply has a history of unreliability and may also be impacted by groundwater drawdown from FPP dewatering activities. Supplementation of the Jigalong supply would be welcomed by the community, but is not expected to require more than 0.35 ML/d, and thus other options would also be required.

The third option is to use the surplus dewater for irrigation, and the proponent proposes to irrigate introduced agricultural crops on areas that have been cleared for mining only. No additional native vegetation would be cleared for agriculture.

Managed aquifer recharge is the fourth option proposed, and available geological and hydrological data suggests that all the surplus water could be successfully reinjected at sites surrounding the FPP via a number of injection wells.

The fifth option proposed is the controlled discharge of surplus water to a number of surface watercourses to mimic the natural episodic flows.

The final option is to episodically irrigate native vegetation on the proposal site.

Assessment

The EPA's environmental objectives for this factor are to:

- maintain the quantity of water so that existing and potential environmental values, including ecosystem maintenance, are protected; and
- ensure that water discharge quality and quantity does not adversely affect environmental values by meeting acceptable standards.

The Department of Agriculture and Food advised that it strongly supports the use of surplus dewater for agricultural purposes, and the Department of Mines and Petroleum (DMP) has recently advised that it does not consider there to be any impediment to such a beneficial use under the *Mining Act 1978*.

The DEC advised that it does not support the discharge of surplus dewater to the environment. However, if found to be acceptable by the EPA, the DEC recommends conditions be imposed on the proponent requiring clearance of the final discharge design, along with baseline and ongoing monitoring.

The EPA notes that the hierarchy of proposed disposal options for surplus dewater is consistent with Section 4.1 of the Department of Water's (DoW's) *Pilbara Groundwater Allocation Plan* (DoW, 2012). The EPA supports the proposed options, as long as they are implemented as far as practicable in accordance with the DoW hierarchy.

The EPA notes that a DoW licence would be required for abstraction, and considers that the DoW is best placed to manage disposal in accordance with its policies and legislative requirements.

In regard to the least favoured options (discharge to the environment), the EPA agrees with the DEC that conditions should be imposed. As such, a condition requiring approval of the discharge design and monitoring of the receiving environment is recommended (see recommended Condition 9-4 in Appendix 3).

The EPA has also provided other advice regarding the legacy implications of disposing of surplus dewater for community purposes.

Summary

Having particular regard to the:

- hierarchy of the proponent's proposed disposal options;
- ability of the DoW to manage ground water abstraction consistent with its *Pilbara Groundwater Allocation Plan*; and
- recommended conditions requiring approval of the discharge design and monitoring of the receiving environment,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.4 Residual impacts

Description

Following the implementation of all mitigation measures, the proposal is expected to have the following significant residual impacts:

- clearing of up to 1640 ha of native vegetation in the Pilbara IBRA bioregion, most of which is in pristine condition;
- a potential rail corridor through the Fortescue Marsh, impacting on approximately 25 ha of the Fortescue Marsh Priority Ecological Community (PEC);
- impact on up to 155 ha of groundwater dependent vegetation (River Red Gum) and realignment of 5 kilometre of Mirrin Mirrin creek; and
- the potential impact on subterranean fauna species.

Assessment

The proposal requires clearing of up to 1640 ha for a railway corridor, located within the Pilbara IBRA bioregion. While rail option 1 is longer, rail option 2 traverses the Fortescue Marsh PEC. Both options impact on native vegetation in pristine condition.

When the combined impact of other mining and infrastructure development activity, and the impacts of other threatening processes such as grazing and fire are considered, the overall loss of native vegetation and impact on surface water systems represent a significant residual environmental impact to the central Pilbara region. The lack of conservation estate in the area and the high likelihood of ongoing mining development in the area exacerbate this issue.

The EPA considers that the cumulative impact from growth in mining in the Pilbara IBRA bioregion needs to be addressed so that conservation management actions can be implemented proactively and the costs associated with these are divided between all users of the region (not just the late comers). In particular, the area around Fortescue Marsh is being subject to significant cumulative impacts which are affecting its environmental values. As a result, the EPA has recommended an offset for the clearing of the railway corridor within the Pilbara IBRA bioregion.

The EPA sees considerable merit in proponents contributing to a strategic regional conservation initiative for the Pilbara region, and has recommended such an approach for previous proposals in the area. This approach to environmental offsets will involve the establishment of an appropriate body, with rigorous and transparent governance arrangements, to implement on-ground initiatives to improve the environmental values within the Pilbara IBRA bioregion.

In the EPA's view, such a body should have the objectives of addressing threatening processes to flora and fauna and potentially enhancing the viability of conservation significant species, including those listed as Matters of National Environmental Significance. A regional conservation initiative would be most effective if all proponents within the region contributed, in the event that offsets were required as a result of assessment of the impacts of proposals. This would lead to better integration and co-ordination of efforts to achieve environmental gains in a region under significant cumulative pressure from mining and infrastructure development, and other pressures.

The EPA considers that offsetting the impacts to the significant vegetation types also addresses the impacts to conservation significant fauna species habitat.

When implemented, the proposal will also have an effect on up to 155 ha of groundwater dependent vegetation through drawdown. This loss of vegetation is considered to be a significant impact.

Further surveys are required to determine whether the proposal will have a significant impact on subterranean fauna. Should the results from these surveys indicate that the proposal may compromise the long term survival of a subterranean fauna species or community, an offset should be applied.

Commensurate with other projects in the area, the EPA recommends that a contribution to the strategic regional conservation initiative would be appropriate (see Condition 10 in Appendix 3).

5. Recommended conditions

Having considered the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by FerrAus to expand its FerrAus Pilbara Project is approved for implementation. These conditions are presented in Appendix 3.

6. Other advice

The EPA notes that while there is considerable community benefit in providing water to the Jigalong community, it will be necessary to have an appropriate arrangement in place to ensure continuity of supply after mine closure.

The proponent has advised that the pipeline infrastructure would be left in place and that the Jigalong community should be able to operate the system on their own behalf.

The EPA considers that there are a number of matters which need to be addressed, such as the:

- appropriateness of the retained infrastructure for the lower abstraction rates (pumping equipment, power source, etc);
- training of community members to operate the equipment; and
- provisions for maintenance,

and considers that these should be addressed well before closure so that handover can occur without disruption to the water supply.

7. Conclusions

The EPA has considered the proposal by FerrAus Pty Limited to expand its FerrAus Pilbara Project.

In conducting its assessment of the proposal the EPA has determined that the key environmental factors of vegetation and fauna habitat, subterranean fauna, surplus dewater disposal, and residual impacts required detailed assessment in this report.

The EPA notes that while no DRF or TECs are expected to be impacted by the proposal, there is considerable clearing of native vegetation, most of which is in pristine condition. The EPA has recommended conditions to ensure that additional flora and fauna surveys are undertaken to inform the final design of the proposal to minimise impacts to conservation significant flora and fauna species. The proposal will also result in an impact to the Fortescue Marsh PEC and the recommended conditions provide for the proponent designing the railway to limit the impacts on the Fortescue Marsh.

The EPA also notes that there is uncertainty remaining on the risk to subterranean fauna species, which has necessitated conditions requiring further survey effort and identification of mitigation measures.

To address these residual impacts, and commensurate with other projects in the area, the EPA recommends that a contribution to the strategic regional conservation initiative would be appropriate.

The EPA considers the hierarchy of the proposed dewater disposal options to be appropriate, and has recommended conditions for the least favoured options.

The EPA notes the considerable community benefit in providing water to the Jigalong community, and considers it essential that appropriate arrangements are in place to ensure continuity of supply after mine closure.

The EPA has therefore concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 3.

8. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. That the Minister notes that the proposal being assessed is for an expansion of the FerrAus Pilbara Project;
2. That the Minister considers the report on the key environmental factors as set out in Section 3;
3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 3; and
4. That the Minister imposes the conditions and procedures recommended in Appendix 3 of this report.

Appendix 1

References

DoW (2012). *Pilbara Groundwater Allocation Plan*. Department of Water, Government of Western Australia. March 2012. Perth, WA.

Strategen (2012). *FerrAus Pilbara Project*. Prepared by Strategen Environmental Consultants for FerrAus Pty Limited, May 2012. Perth, WA.

Appendix 2

Summary of the management of other aspects

The management of some of the other aspects of the proposal are summarised in the table below.

Aspect	Affect / Comment	Management
Fauna	<ul style="list-style-type: none"> • entrapment during trenching. • attraction to artificial water bodies 	<ul style="list-style-type: none"> • management plans developed in consultation with the DEC
Indigenous heritage	<ul style="list-style-type: none"> • disturbance of sites in proposal area 	<ul style="list-style-type: none"> • Section 18 of the <i>Aboriginal Heritage Act 1972</i>
Surface water	<ul style="list-style-type: none"> • permanent diversion of Mirrin Mirrin Creek • surface water diversion structures 	<ul style="list-style-type: none"> • DMP will review geotechnical data during the Mining Proposal approval process. • DoW will assess creek diversion as part of the DMP process
Waste material	<ul style="list-style-type: none"> • Acid and Metalliferous Drainage potential considered low • fibrous material may be encountered 	<ul style="list-style-type: none"> • DMP will fully assess these aspects as part of Mining Proposal approval process
Closure	<ul style="list-style-type: none"> • all pits to be backfilled above groundwater level • long term stability of final landforms, and permanent surface water diversions 	<ul style="list-style-type: none"> • DMP will fully assess the Mine Closure Plan during the Mining Proposal approval process

Appendix 3

Identified Decision-making Authorities and Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of the 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 Water – c/o Department of Water	<i>Rights in Water and Irrigation Act 1914 - Water abstraction licence</i>
2. Minister for State Development	<i>Agreement Act - Railway</i>
3. Minister for Indigenous Affairs	<i>Aboriginal Heritage Act 1972</i>
4. Minister for Lands	<i>Land Administrative Act 1997</i>
5. Department of Mines and Petroleum	<i>Mining Act 1978 - Mining proposal approval Mines Safety Regulations</i>
6. Department of Environment and Conservation	<i>Environmental Protection Act 1986 - works approval and licence Conservation and Land Management Act 1984 Wildlife Conservation Act 1950</i>
7. Shire of East Pilbara	Planning approval
8. Shire of Meekatharra	Planning approval

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 (PURSUANT TO THE PROVISIONS OF THE *ENVIRONMENTAL PROTECTION ACT 1986*)

FERRAUS PILBARA PROJECT

Proposal: The proposal is to expand the FerrAus Pilbara Project to include below the water table mining at the Robertson Range Area and to develop additional mine pits at the Davidson Creek Area, located in the East Pilbara region of Western Australia.

Proponent: FerrAus Pty Limited
Australian Company Number: 097 422 529

Proponent Address: Raine Square, Level 18
300 Murray Street
PERTH WA 6000

Assessment Number: 1908

Report of the Environmental Protection Authority Number: 1449

This Statement authorises the implementation of the Proposal described and documented in Columns 1 and 2 of Table 2 of Schedule 1. The implementation of the Proposal is subject to the following implementation conditions and procedures. Schedule 1 describes the authorised extent and defines terms and phrases used in the implementation conditions and procedures.

Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Column 3 of Table 2 in Schedule 1, unless amendments to the proposal and the authorised extent of the Proposal have been approved under the EP Act.

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 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.

Time Limit for Proposal Implementation

- 3-1 The proponent shall not commence implementation of the proposal after the expiration of 5 years from the date of this statement, and any commencement, within this 5 year period, must be substantial.
- 3-2 Any commencement of implementation of the proposal, within 5 years from the date of this statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of 5 years from the date of this statement.

Compliance Reporting

- 4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.
- 4-2 The proponent shall submit to the CEO the compliance assessment plan required by Condition 4-1 at least six months prior to the first compliance assessment report required by Condition 4-6, or prior to implementation, whichever is sooner.

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.
- 4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by Condition 4-1.
 - 4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by Condition 4-1 and shall make those reports available when requested by the CEO.
 - 4-5 The proponent shall advise the CEO of any potential non-compliance within seven days of that non-compliance being known.
 - 4-6 The proponent shall submit to the CEO the first compliance assessment report 15 months from the date of issue of this Statement addressing the 12 month

period from the date of issue of this Statement and then annually from the date of submission of the first compliance assessment report.

The compliance assessment report shall:

- (1) be endorsed by the proponent's Managing Director or a person delegated to sign on the Managing Director'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 4-1.

Public Availability of Data

5-1 Subject to Condition 5-2, 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.

5-2 If any data referred to in Condition 5-1 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 data 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.

Vegetation

6-1 The proponent shall ensure that there is no mortality of groundwater dependent vegetation (River Red Gum and Coolibah) due to the implementation of the proposal beyond the ten metre groundwater drawdown contour as shown in Figure 2 and delineated by coordinates specified in Schedule 2.

6-2 To verify that Condition 6-1 is being met, the proponent shall develop a Groundwater Dependent Vegetation Monitoring Plan to the satisfaction of the CEO.

The Groundwater Dependent Vegetation Monitoring Plan shall include:

- (1) identification of potential impact monitoring and control sites;
- (2) the design of a survey to acquire baseline data, including health and abundance parameters;
- (3) definition of health and abundance parameters;
- (4) definition of environmental parameters to be monitored, including groundwater drawdown;
- (5) definition of monitoring frequency and timing; and
- (6) identification of criteria to measure decline in health.

6-3 The proponent shall implement the Groundwater Dependent Vegetation Monitoring Plan required by Condition 6-2 prior to the start of dewatering at the Davidson Creek Area until advised otherwise by the CEO.

6-4 Prior to the commencement of dewatering, the proponent shall implement the baseline monitoring survey, required by Condition 6-2 (2) for all sites identified in Condition 6-2 (1) and submit the results to the CEO.

6-5 In the event that monitoring required by Condition 6-3 indicates a decline in health compared with the control sites, identified in Condition 6-1(1), the proponent shall provide a report to the CEO within 21 days of the decline being identified which:

- (1) describes the decline or change;
- (2) provides information which allows determination of the likely root cause of the decline or change; and
- (3) if considered likely to be the result of activities undertaken in implementing the proposal, proposes the actions and associated timelines to remediate the decline or change.

6-6 The proponent shall implement the actions identified in Condition 6-5 (3) until the CEO determines that the remedial actions may cease.

Rail alignment

- 7-1 Prior to commencement of ground disturbing activities, the Proponent shall undertake targeted flora and fauna surveys of the rail route to identify any species of conservation significance to the satisfaction of the CEO in consultation with the Department of Environment and Conservation.
- 7-2 In the event that the results from the surveys required by Condition 7-1 identify conservation significant flora or fauna, the proponent shall take steps to avoid or minimise the disturbance of the conservation significant flora or fauna to the requirements of the CEO in consultation with the Department of Environment and Conservation.
- 7-3 The proponent shall avoid or minimise disturbance to samphire and halophytic vegetation where the rail traverses the Fortescue Marsh as shown in Figure 1 to the satisfaction of the CEO in consultation with the Department of Environment and Conservation.
- 7-4 The proponent shall avoid or minimise disturbance to riparian vegetation where the rail traverses Fortescue River Coolibah as shown in Figure 1 to the satisfaction of the CEO in consultation with the Department of Environment and Conservation.
- 7-5 The proponent shall design the rail infrastructure to maintain the natural surface flows and flooding regime of the marsh where the rail traverses the Fortescue Marsh as shown in Figure 1 to the satisfaction of the CEO in consultation with the Department of Environment and Conservation.
- 7-6 The proponent shall design the rail infrastructure to maintain the surface flows and flooding regime of the alluvial and gilgai plains where the rail traverses Fortescue River Coolibah as shown in Figure 1 to the satisfaction of the CEO in consultation with the Department of Environment and Conservation.

Subterranean Fauna

- 8-1 Prior to commencement of ground disturbance activities, the Proponent shall implement the Subterranean Fauna Survey Strategy provided as Appendix 33 of *the FerrAus Pilbara Project Mine and Rail Infrastructure Environmental Impact Assessment* (August 2011) or subsequent revisions approved by the CEO.
- 8-2 In the event that the results from the surveys required by the Subterranean Fauna Survey Strategy referred to in Condition 8-1 indicate that there is a risk of loss of subterranean species and/or communities as a result of project operations, the proponent shall institute management measures in accordance with a Subterranean Fauna Management Plan prepared prior to ground disturbing activities to the requirements of the CEO in consultation with the Department of Environment and Conservation.

The Subterranean Fauna Management Plan shall set out procedures and measures to:

- (1) avoid and/or demonstrate management of impacts on subterranean fauna species and/or communities and their habitats where the long-term survival of those species and/or communities may be unknown or at risk as a result of project operations;
- (2) record the distribution of species and/or communities of subterranean fauna, and monitor groundwater levels, groundwater quality and other relevant aspects of subterranean fauna habitat to ensure that the long-term survival of subterranean fauna species and communities is not compromised as a result of project operations; and
- (3) in the event that monitoring indicates that project operations may compromise the long-term survival of a population of subterranean fauna species and/or a discrete occurrence of a subterranean fauna community, the proponent shall provide a report, developed in consultation with the Department of Environment and Conservation, proposing measures to avoid, mitigate or offset these risks to the CEO for approval.

8-3 If a Subterranean Fauna Management Plan is required to be prepared under Condition 8-2, it shall be implemented prior to and during any ground disturbing activities.

Discharge of Dewater to the Environment

9-1 The proponent shall ensure that the discharge of surplus dewater as a result of mining does not cause long term impacts to the environmental and conservation values of the receiving watercourses and/or irrigation areas.

9-2 To verify that Condition 9-1 is being met, the proponent shall develop a high level environmental and conservation values statement for the receiving watercourses and/or irrigation areas to the satisfaction of the CEO in consultation with the Department of Water.

9-3 The proponent shall ensure that any dewater discharged to the environment does not exceed whichever is greater of the following:

- (1) the default trigger for the protection of marine and freshwater ecosystems as per the Australian and New Zealand Environmental and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (ANZECC/ARMCANZ (2000)) *Australian Water Quality Guidelines for Fresh and Marine Waters* and its updates;

- (2) baseline levels of the receiving environment determined pursuant to Condition 9-3; or
 - (3) other criteria agreed with the Department of Water.
- 9-4 Prior to discharging excess water from the proposal, the proponent shall develop a Water Discharge Monitoring and Management Plan to the satisfaction of the CEO in consultation with the Department of Water to ensure that the environmental and conservation values associated with these ecosystems and any downstream ecosystems are maintained. This plan shall:
- (1) when implemented, identify the water quality baseline levels of the receiving water courses and/or irrigation areas for the criteria measured under the Australian and New Zealand Environmental and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (ANZECC/ARMCANZ (2000)) *Australian Water Quality Guidelines for Fresh and Marine Waters* and its updates;
 - (2) describe the episodic water discharge program;
 - (3) when implemented, monitor to demonstrate whether Conditions 9-1 and 9-3 are being met; and
 - (4) when implemented, manage the implementation of the proposal to meet the requirements of Conditions 9-1 and 9-3.
- 9-5 Prior to ground disturbing activities (to allow the discharge of excess dewater to the environment), the proponent shall undertake targeted surveys of the pipeline routes and/or irrigation areas to identify any species of conservation significant flora or fauna to the satisfaction of the CEO.
- 9-6 The proponent shall take account of the results of the surveys required by Condition 9-5 in the design of the discharge and/or irrigation system to the satisfaction of the CEO.
- 9-7 The proponent shall implement the Water Discharge Monitoring and Management Plan from the commencement of discharge of excess water from the proposal.

Residual Impacts and Risk Management Measures

- 10-1 In view of the significant residual impacts and risks as a result of implementation of the proposal, the proponent shall contribute:
- (1) funding for the impact to groundwater dependent vegetation calculated pursuant to Condition 10-2 prior to ground disturbance;

- (2) funding for the impact to good-to-excellent condition native vegetation, calculated pursuant to Condition 10-3; and
- (3) funding for the impact to the Fortescue Marsh Priority Ecological Community, calculated pursuant to Condition 10-4,

to the strategic regional conservation initiative for the Pilbara.

10-2 The amount of funding pursuant to Condition 10-1(1) will be calculated as:

- \$1500 (excluding GST) per hectare within the ten metre drawdown contour as identified in Figure 2.

10-3 The proponent's contribution to the initiative identified in Condition 10-1(2) shall be paid biennially, the first payment due on 31 May two years after ground disturbance. The amount of funding will be made on the following basis and in accordance with the approved Impact Reconciliation Procedure:

- \$1500 (excluding GST) per hectare cleared within the area delineated in Figure 1 as the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA).

10-4 The proponent's contribution to the initiative identified in Condition 10-1(3) shall be paid biennially, the first payment due on 31 May two years after ground disturbance. The amount of funding will be made on the following basis and in accordance with the Impact Reconciliation Procedure:

- \$3000 (excluding GST) per hectare cleared within the area delineated in Figure 1 as Fortescue Marsh.

10-5 The proponent shall prepare an Impact Reconciliation Procedure and submit it for approval of the CEO prior to ground disturbance.

10-6 The Impact Reconciliation Procedure required pursuant to condition 10-5 shall:

- (1) include details of a methodology to identify clearing;
- (2) include a methodology for calculating the amount of clearing undertaken during each biennial time period; and
- (3) state the biennial time period commences on the 1 March prior to commencing ground disturbance and the due date for submitting the results of the Procedure for approval of the CEO as 31 March two years after commencement of the biennial time period.

10-8 If pursuant to Condition 8-2 (3), the CEO agrees that risks to the long-term survival of subterranean fauna species and/or communities may be offset, the proponent shall prepare a Subterranean Fauna Research Project and submit it to the CEO for approval.

10-9 The Subterranean Fauna Research Project pursuant to Condition 10-8 shall:

- (1) be to the value of \$100,000 excluding GST;
- (2) when implemented, meet the objective of increasing knowledge and understanding of subterranean fauna in the Pilbara region; and
- (3) be prepared in consultation with the Department of Environment and Conservation and the Western Australian Museum.

10-10 The proponent shall implement the Approved Subterranean Fauna Research Project within 12 months of results from surveys pursuant to Condition 8-2 identifying that project operations may compromise the long-term survival of subterranean fauna species and/or communities.

10-11 The real value of contributions described in Conditions 10-2, 10-3, 10-4 and 10-9 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

Proposal Title	FerrAus Pilbara Project
Short Description	This proposal is to expand the FerrAus Pilbara Project to mine ore below the water table at the Robertson Range Area, and to develop an additional mine at the Davidson Creek Area, in the East Pilbara region of Western Australia.

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

Column 1	Column 2	Column 3
Physical Element	Location	Authorised Extent
Twelve open cut mine pits	Davidson Creek Area (See Figure 1)	Mining up to 205 metres below the water table
Four open cut mine pits	Robertson Range Area (See Figure 1)	Mining up to 140 metres below the water table
Mine, waste dumps, tailings storage facility, and associated infrastructure	See Figure 2 and geographic coordinates described in Schedule 2	Clearing of up to 4700 hectares of native vegetation within the development footprint
Impact of groundwater depression on groundwater dependent vegetation	Within the 10 metre drawdown contour shown in Figure 2 and geographic coordinates described in Schedule 2	Loss of groundwater dependent vegetation within the 10 metre drawdown contour
Railway - one of two options (but not both)	Option 1: route from project area to Brockman Resources Marillana Project as shown in Figure 1; OR Option 2: route from project area to Roy Hill project as shown in Figure 1	Clearing of up to 1640 hectares of native vegetation, 980 hectares of which is to be rehabilitated; OR Clearing of up to 1460 hectares of native vegetation, 880 hectares of which is to be rehabilitated

Table 2 continued

Operational Element	Location	Authorised Extent
Dewatering	-	Abstraction of no more than 11.5 gigalitres per annum
Excess dewater discharge	Project area and surrounding areas	Discharge of no more than 9 gigalitres per annum

Table 3: Abbreviations

Abbreviation	Term
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agricultural and Resource Management Council of Australia and New Zealand
IBRA	Interim Biogeographic Regionalisation for Australia, 2012 (version 7)

Table 4: Definitions

Term or Phrase	Definition
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>
GST	Goods and Services Tax

Definitions

Approved Impact Reconciliation Procedure - the Impact Reconciliation Procedure for which the proponent has received written notification from the CEO that it meets the requirements of Condition 10-6.

Approved Subterranean Fauna Research Project - the Subterranean Fauna Research Project for which the proponent has received written notification from the CEO that it meets the requirements of Condition 10-9.

Biennial – every two years.

Strategic regional conservation initiative for the Pilbara – an initiative to be undertaken by a body that has the strategic objective of improving environmental

values and conservation outcomes of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion by recommending and implementing management and other measures to address threatening processes to flora and fauna.

Figures (attached)

Figure 1 Development envelope of the Ferrous Pilbara Project

Figure 2 Davidson Creek development envelope and 10 metre groundwater drawdown contour

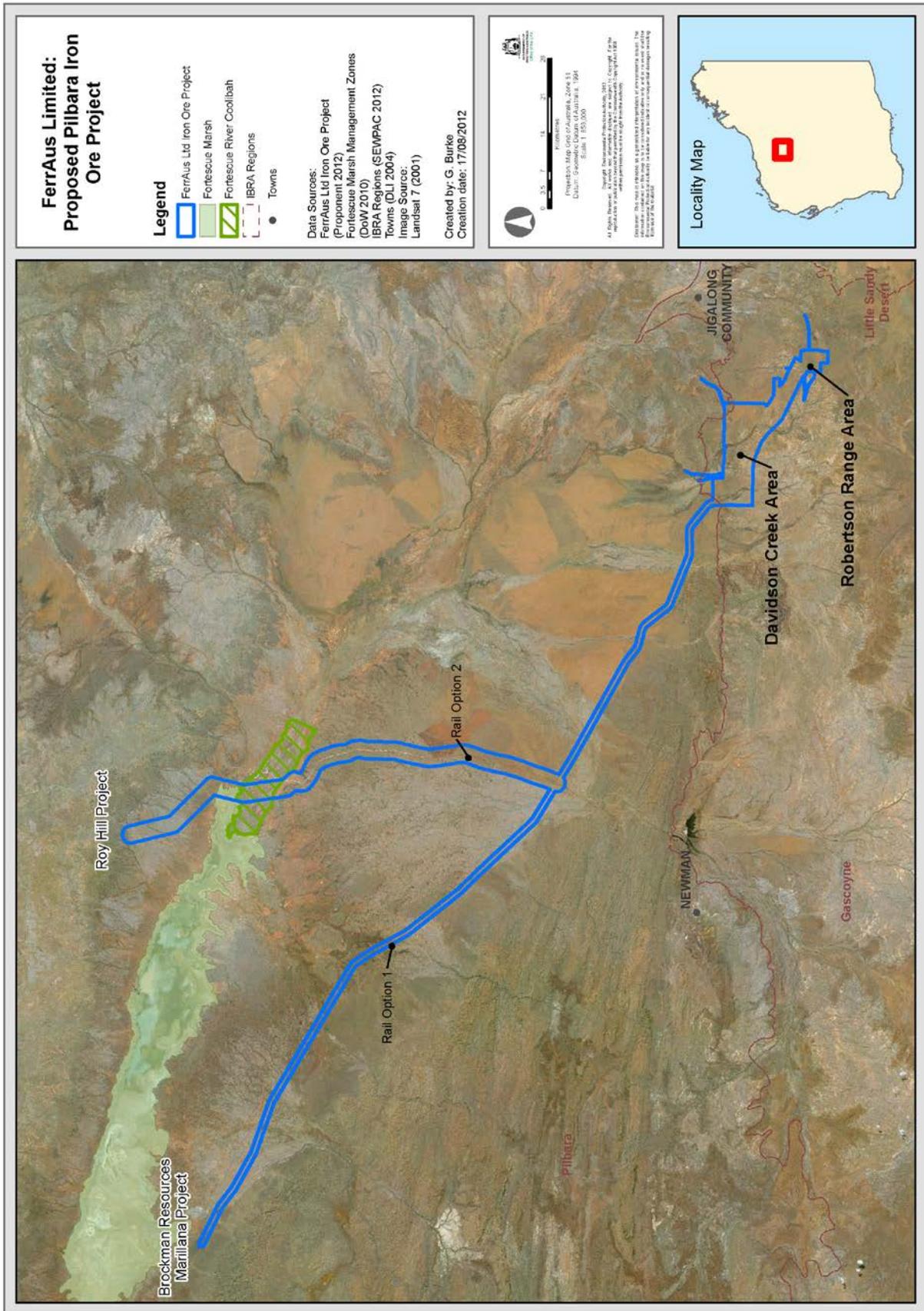


Figure 1 Development envelope of the FerrAus Pilbara Project

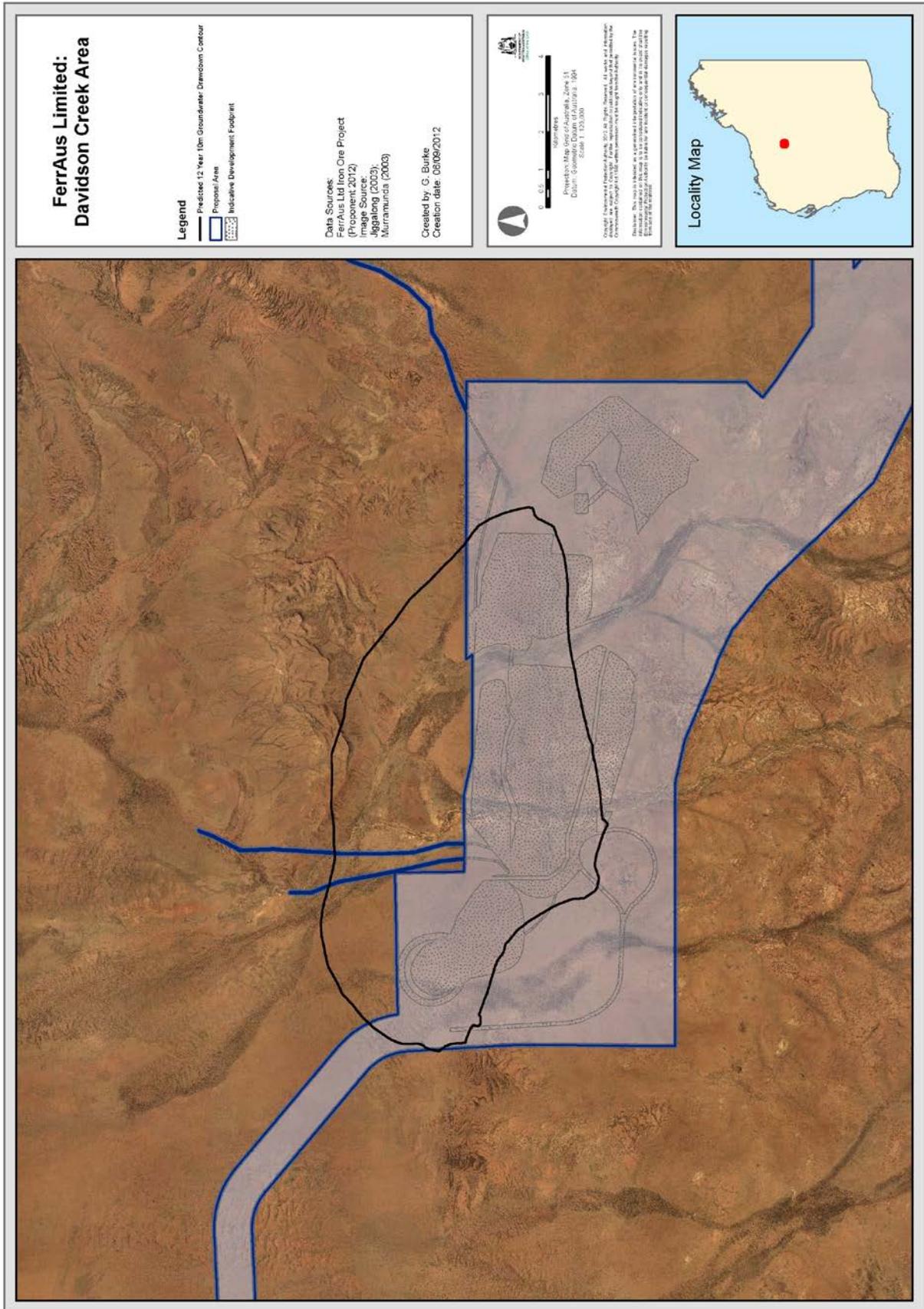


Figure 2 Davidson Creek development envelope and 10 metre groundwater drawdown contour

Notes

The following notes are provided for information and do not form a part of the implementation conditions of the Statement:

- The proponent for the time being nominated by the Minister for Environment under section 38(6) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal unless and until that nomination has been revoked and another person is nominated.
- If the person nominated by the Minister, ceases to have responsibility for the proposal, that person is required to provide written notice to the Environmental Protection Authority of its intention to relinquish responsibility for the proposal and the name of the person to whom responsibility for the proposal will pass or has passed. The Minister for Environment may revoke a nomination made under section 38(6) of the *Environmental Protection Act 1986* and nominate another person.
- To initiate a change of proponent, the nominated proponent and proposed proponent are required to complete and submit *Post Assessment Form 1 – Application to Change Nominated Proponent*.
- The General Manager of the Office of the Environmental Protection Authority was the Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986* at the time the Statement was signed by the Minister for Environment.

Schedule 2

Geographical coordinates of the development footprint and the ten metre groundwater drawdown contour.

FerrAus Pilbara Iron Ore Project

Predicted 12 Year 10m Groundwater Drawdown Contour

Prepared 11 September 2012

Co-ordinates defining the *Predicted 12 Year 10m Groundwater Drawdown Contour* dataset are prescribed below, noting that the correct recreation of the boundary requires the sequential connection of the co-ordinates as per its co-ordinate number.

All co-ordinates are listed in Map Grid of Australia Zone 51 (MGA Zone 51), datum of Geodetic Datum of Australia 1994 (GDA94).

Co-ordinate No.	Easting	Northing
1	239180.00	7413388.04
2	239540.00	7413343.48
3	239780.00	7413289.38
4	240082.58	7413202.58
5	240204.70	7413160.00
6	240360.00	7413133.83
7	240660.00	7413060.31
8	240901.29	7413018.71
9	241220.00	7413036.34
10	241755.30	7413044.70
11	242260.00	7413111.17
12	243000.00	7413091.92
13	243680.00	7413097.77
14	244640.00	7412778.12
15	245100.00	7412721.49
16	245380.00	7412593.50
17	246180.00	7412265.38
18	246822.52	7411740.00
19	246899.15	7411699.15
20	246944.19	7411664.19
21	247140.00	7411484.05
22	247750.86	7411050.86
23	248247.47	7410520.00
24	248656.04	7410136.04
25	248815.48	7409960.00
26	248979.68	7409819.68
27	249185.80	7409625.80
28	249510.75	7409400.00
29	249694.83	7409240.00
30	249877.52	7408940.00
31	250023.86	7408580.00
32	250094.20	7408340.00
33	250172.45	7408000.00

34	250174.41	7407920.00
35	250161.10	7407840.00
36	250138.68	7407820.00
37	250074.24	7407805.76
38	249960.00	7407765.18
39	249900.00	7407717.02
40	249860.91	7407660.00
41	249850.82	7407620.00
42	249714.96	7407360.00
43	249658.93	7407280.00
44	249422.60	7407200.00
45	249220.00	7407114.95
46	249046.60	7407053.40
47	248880.00	7407009.04
48	248720.00	7406979.07
49	248422.09	7406937.91
50	248200.00	7406918.96
51	247960.00	7406914.27
52	247620.00	7406921.94
53	247146.57	7406913.43
54	246720.00	7406884.00
55	246480.00	7406851.85
56	246120.00	7406787.95
57	245900.00	7406732.65
58	245447.87	7406660.00
59	245260.00	7406612.52
60	244640.00	7406484.58
61	244500.00	7406440.44
62	244400.00	7406426.06
63	244100.00	7406351.35
64	243900.00	7406264.47
65	243680.00	7406257.23
66	243307.71	7406172.29
67	242640.00	7406064.63
68	242080.00	7406021.22
69	241960.00	7405999.18
70	241933.69	7405986.31
71	241840.00	7405881.62
72	241800.00	7405865.57
73	241600.00	7405958.89
74	241378.27	7406040.00
75	241220.00	7406083.33
76	241000.00	7406158.49
77	240760.00	7406204.92
78	240700.00	7406203.47
79	240385.08	7406094.92

80	240123.99	7406143.99
81	240035.85	7406195.85
82	239848.63	7406480.00
83	239834.86	7406754.86
84	239697.28	7407140.00
85	239600.00	7407326.28
86	239440.00	7407603.99
87	239215.49	7407960.00
88	239115.51	7408075.51
89	238991.62	7408240.00
90	238768.18	7408420.00
91	238714.12	7408454.12
92	238660.00	7408519.68
93	238600.00	7408559.53
94	238500.00	7408568.87
95	238380.00	7408616.93
96	238200.00	7408750.58
97	238085.52	7408800.00
98	237680.00	7408930.23
99	237540.00	7408963.29
100	237300.00	7409039.04
101	237140.00	7409109.22
102	237060.00	7409132.04
103	236780.00	7409236.15
104	236760.00	7409238.93
105	236716.47	7409203.53
106	236517.35	7409197.35
107	236461.86	7409261.86
108	236494.46	7409380.00
109	236478.12	7409400.00
110	236400.00	7409456.59
111	236340.00	7409484.92
112	236208.05	7409540.00
113	236120.00	7409565.99
114	236099.56	7409579.56
115	236060.00	7409582.63
116	236027.70	7409600.00
117	236009.94	7409840.00
118	235983.41	7410000.00
119	235920.05	7410140.00
120	235840.00	7410244.91
121	235798.33	7410281.67
122	235833.45	7410440.00
123	235887.47	7410612.53
124	235908.69	7410660.00
125	235945.89	7410694.11

126	235972.12	7410740.00
127	235996.81	7410820.00
128	236005.76	7410880.00
129	235993.78	7411120.00
130	235997.63	7411240.00
131	236030.72	7411360.00
132	236118.04	7411560.00
133	236178.28	7411660.00
134	236434.56	7412020.00
135	236749.75	7412340.00
136	237040.00	7412564.74
137	237302.68	7412817.32
138	237589.67	7412950.33
139	238040.00	7413194.92
140	238840.00	7413365.88
141	239180.00	7413388.04

END OF CO-ORDINATE LISTING