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Statement No.
000721

# STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE ENVIRONMENTAL PROTECTION ACT 1986)

PILBARA IRON ORE & INFRASTRUCTURE PROJECT:
CLOUD BREAK (NO BENEFICIATION)

**Proposal:** The proposal encompasses an open pit iron ore mine at Cloud Break, approximately 100 kilometres north-north-west of Newman, and an accommodation village, as documented in schedule 1 of this statement.

**Proponent:** Fortescue Metals Group Ltd

**Proponent Address:** 50 King's Park Road, WEST PERTH WA 6005

**Assessment Number:** 1577

**Report of the Environmental Protection Authority:** Bulletin 1216

The proposal referred to above may be implemented by the proponent subject to the following conditions and procedures:

## 1 Implementation

1-1 The proponent shall implement the proposal as documented in schedule 1 of this statement subject to the conditions and procedures of this statement.

## 2 Proponent Commitments

2-1 The proponent shall implement the environmental management commitments documented in schedule 2 of this statement.

Published on
24 APR 2006

## 3 Proponent Nomination and Contact Details

3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposal.

3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this statement endorsed by the proposed replacement proponent that the proposal will be carried out in accordance with this statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.

3-3 The nominated proponent shall notify the Department of Environment of any change of contact name and address within 60 days of such change.

## 4 Commencement and Time Limit of Approval

4-1 The proponent shall substantially commence the proposal within five years of the date of this statement or the approval granted in this statement shall lapse and be void.

Note: The Minister for the Environment will determine any dispute as to whether the proposal has been substantially commenced.

4-2 The proponent shall make application for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement to the Minister for the Environment, prior to the expiration of the five-year period referred to in condition 4-1.

The application shall demonstrate that:

1 the environmental factors of the proposal have not changed significantly;

2 new, significant, environmental issues have not arisen; and

3 all relevant government authorities have been consulted.

Note: The Minister for the Environment may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.

## 5 Compliance Audit and Performance Review

5-1 The proponent shall prepare an audit program and submit compliance reports to the Department of Environment which address:

1. the status of implementation of the proposal as defined in schedule 1 of this statement;

2. evidence of compliance with the conditions and commitments; and

3. the performance of the environmental management plans and programs.

Note: Under sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environment is empowered to monitor the compliance of the proponent with the statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this statement.

5-2 The proponent shall submit a performance review report every five years after the start of operations, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority, which addresses:

1. the major environmental issues associated with implementing the project; the environmental objectives for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those objectives;

2. the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best practical measures available;

3. significant improvements gained in environmental management, including the use of external peer reviews;

4. stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and

5. the proposed environmental objectives over the next five years, including improvements in technology and management processes.

## 6 Mulga and Other Flora and Communities

6-1 Prior to commencement of ground-disturbing activities and in consultation with the Department of Conservation and Land Management, the proponent shall prepare a Mulga and Other Flora and Communities Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

The objective of this Plan is to ensure the protection of vegetation values generally, including conservation of significant flora species and communities which occur within the vicinity of the mine, the adjacent Fortescue Marsh and the transport corridor.

This Plan shall address:

1. the ongoing management, monitoring and reporting of impacts on vegetation communities, including Declared Rare Flora and Priority flora species, Mulga and restricted plant communities, within the project area and strategies for avoidance, minimisation or mitigation of impacts;

2. the results of targeted flora and vegetation surveys where surveys have not been completed or where the result of previous surveys cannot be extrapolated prior to ground-disturbing activities to provide further information on the conservation and baseline values status of each of the species and/or communities within the project area;

3. the development of criteria for establishing impact on vegetation communities as referred to in item 1 above, including Mulga;

4. regeneration or revegetation strategies which may be required for species and/or communities referred to in item 1 above, including completion criteria to be met following the survey for species and/or communities impacted by the project;

5. management or mitigation actions required to address any impacts on vegetation communities established under item 3 above or failure to achieve the completion criteria referred to in item 4 above; and

6. further investigations into the regeneration and seed ecology of affected species or communities in order to determine appropriate regeneration methodologies, if completion criteria are not being achieved.

6-2 The proponent shall implement the Mulga and Other Flora and Communities Management Plan required by condition 6-1.

6-3 The proponent shall make the Mulga and Other Flora and Communities Management Plan required by condition 6-1 publicly available.

## 7 Fauna

7-1 Prior to ground-disturbing activities and in consultation with the Department of Conservation and Land Management, the proponent shall prepare a Fauna Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

The objectives of this Plan are to:

- Provide further information to clarify the potential direct and indirect impacts on fauna species, including threatened and Priority-listed species [such as the Night Parrot (*Pezoporus occidentalis*) and Bilby (*Macrotis lagotis*)], within the project area, transport corridor and the adjacent Fortescue Marsh;

- Establish and implement management and monitoring strategies to ensure that the Night Parrot (*Pezoporus occidentalis*) and Bilby (*Macrotis lagotis*) are not significantly disturbed within the project area, the adjacent Fortescue Marsh and the transport corridor; and

- Establish appropriate review mechanisms regarding the strategies employed to protect fauna species.

The Fauna Management Plan shall:

1. define the methodology to undertake further fauna surveys before ground-disturbing activities;

2. include follow-up surveys and identification of significant fauna populations and their distribution;

3. include measures to control, and where possible, exclude feral animals;

4. implement measures to protect fauna from the effects of vegetation clearing, noise, vibration, light overspill and any other impacts;

5. identify suitable means of ensuring ongoing appropriate protection of fauna; and

6. monitor and report the success of agreed means of appropriate protection employed.

7-2 The proponent shall implement the Fauna Management Plan required by condition 7-1.

7-3 The proponent shall make the Fauna Management Plan required by condition 7-1 publicly available.

## 8 Fortescue Marsh

8-1 Prior to commencement of construction activities, the proponent shall prepare a Fortescue Marsh Management Plan detailing how the objective of maintaining the health of the Fortescue Marsh will be achieved, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

This Plan shall define the boundaries of the Fortescue Marsh by detailed mapping of the different fringing vegetation types and take into consideration that the marshland Samphire vegetation is interdigitated with Spinifex.

The objectives of this Plan are to:

- determine the ecological boundary to establish the baseline health condition of vegetation and fauna (including herpetofauna and non-marine molluscs) and water level of the adjacent Fortescue Marsh prior to construction undertaken as part of this proposal;

- monitor and determine on an ongoing basis any changes in the health and water levels of the adjacent Fortescue Marsh attributable to the project following the commencement of construction; and

- implement appropriate actions to maintain the health of the adjacent Fortescue Marsh.

This Plan shall address the following:

1. location and identification of monitoring sites and reference sites to measure the Fortescue Marsh environment referred to in the abovementioned detailed mapping;

2. identification of indicators to quantitatively determine the health of the Fortescue Marsh using the identified monitoring sites referred to in item 1 above;

3. baseline and ongoing monitoring on a quarterly basis of the identified indicators referred to in item 2 above;

4. identification of tolerance levels of the indicators referred to in item 2 and trigger levels which require contingencies and/or remedial actions;

5. identification of the contingencies and/or remedial actions and implementation of these actions when trigger levels referred to in item 4 are reached;

6. notification of the Department of Environment and the Department of Conservation and Land Management within twenty four hours when trigger levels are reached and provision of advice on what actions have been implemented in accordance with item 5; and

7. details of reporting requirements.

8-2 The proponent shall implement the Fortescue Marsh Management Plan required by condition 8-1.

8-3 The proponent shall make the Fortescue Marsh Management Plan required by condition 8-1 publicly available.

## 9 Groundwater

9-1 Prior to commencement of construction activities, the proponent shall prepare a Groundwater and Bore Management Plan, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

The objectives of this Plan are to:

- provide a framework to predict and measure impacts;

- protect and maintain the quality of the water in the aquifer;

- ensure that station bores within the area of groundwater drawdown maintain adequate outputs for pastoral purposes;

- protect phreatophytic vegetation; and

- define appropriate environmental triggers for contingency plans.

This Plan shall address the following:

1. the layout and specifications of appropriate monitoring sites;

2. protocols and procedures for monitoring and quantitatively assessing the salinity and effects of water abstraction on phreatophytic vegetation;

3. threshold levels to be used to determine if and when action is to be taken to protect station bores and phreatophytic vegetation;

4. the actions (including an immediate reduction in the rate of borewater abstraction from affected bores) which will be taken to address the increase in salinity or adverse effects on phreatophytic vegetation if monitoring reveals that salinity in the production or monitoring wells is increasing and/or if abstraction is affecting phreatophytic vegetation;

5. reporting requirements; and

6. closure procedures.

9-2 The proponent shall implement the Groundwater and Bore Management Plan required by condition 9-1.

9-3 The proponent shall make the Groundwater and Bore Management Plan required by condition 9-1 publicly available.

## 10 Subterranean Fauna

10-1 Within six months following the formal authority issued to the decision-making authorities under section 45(7) of the *Environmental Protection Act 1986*, the proponent shall commence surveys for subterranean fauna in accordance with a Subterranean Fauna Survey Plan prepared to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

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

1. survey areas likely to be affected by project operations; and

2. survey areas with similar habitats outside the areas to be affected by project operations to establish the conservation significance of fauna within the areas to be affected.

10-2 In the event that the results of the surveys required by condition 10-1 indicate that there is a risk of loss of subterranean species or communities as a result of project operations, the proponent shall institute management measures in accordance with a Subterranean Fauna Management Plan prepared to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management.

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 at risk as a result of project operations;

2. monitor the distribution and abundance of species and/or communities of subterranean fauna, 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. take timely remedial action in the event that monitoring indicates that project operations may compromise the long-term survival of subterranean fauna and/or communities.

10-3 Prior to the commencement of dewatering activities for the project, the proponent shall, if applicable, implement the Subterranean Fauna Management Plan required by condition 10-2.

10-4 The proponent shall make the Subterranean Fauna Management Plan required by condition 10-2 publicly available.

## 11 Surface Water

11-1 Prior to ground-disturbing activity relating to the transport corridor and mine activities, the proponent shall prepare a detailed Surface Water Management Plan to the requirements of the Minister for the Environment on advice of the Department of Conservation and Land Management and the Water and Rivers Commission.

The objective of this plan is to minimise direct and indirect impacts (such as by modified surface drainage or saline water application) on flora, fauna and vegetation.

This Plan shall detail:

1. the alignment of the transport corridor and the components within it;

2. locations of associated infrastructure and resources (eg bunds, storage ponds, roads, conveyors, borrow pits, communications facilities);

3. measures which demonstrate that the impacts of the infrastructure and resources referred to in (2) above on fauna, flora and the Fortescue Marsh have been minimised;

4. the specifications and locations of altered surface drainage mitigation measures such as levées and spreader ditches; and

5. any ongoing monitoring and management measures adopted to minimise the impacts described above.

11-2 The proponent shall implement the Surface Water Management Plan required by condition 11-1.

11-3 The proponent shall make the Surface Water Management Plan required by condition 11-1 publicly available.

## 12 Decommissioning and Final Rehabilitation

12-1 The proponent shall rehabilitate and decommission the project areas in accordance with the Conceptual Closure Plan in the Public Environmental Review (Appendix M), or subsequent revisions of the Plan (the Life-of-Mine Closure Plan), to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority, the Water and Rivers Commission, the Department of Industry and Resources and the Department of Conservation and Land Management.

12-2 The proponent shall review and revise the Life-of-Mine Closure Plan at intervals of two years, to the requirements of the Minister for the Environment on advice of the Water and Rivers Commission, the Department of Industry and Resources and the Department of Conservation and Land Management.

The objective of this plan is to ensure that closure planning and rehabilitation are carried out in a coordinated, progressive manner and are integrated with development planning, consistent with the Australian and New Zealand Minerals and Energy Council / Minerals Council of Australia *Strategic Framework for Mine Closure*, current best practice, and the agreed land uses.

Each revision of the Life-of-Mine Closure Plan shall set out procedures and measures to:

1. manage over the long term ground and surface water systems affected by the open pits and waste rock dumps;

2. rehabilitate all disturbed mine and infrastructure corridor areas with native vegetation to a standard suitable for the agreed end land use(s);

3. backfill the pits to minimise impacts on groundwater quality, subterranean fauna and surface drainage patterns, and to encourage appropriate revegetation;

4. identify contaminated areas, including provision of evidence of notification and propose management measures to relevant statutory authorities; and

5. develop management strategies and/or contingency measures in the event that operational experience and/or monitoring indicate that a closure objective is unlikely to be achieved.

12-3 The proponent shall make revisions of the Life-of-Mine Closure Plan required by condition 12-2 publicly available.

**Procedures**

1. Where a condition states "to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority", the Environmental Protection Authority will provide that advice to the Department of Environment for the preparation of written notice to the proponent.

2. The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environment.

3. Where a condition lists advisory bodies, it is expected that the proponent will obtain the advice of those listed as part of its compliance reporting to the Department of Environment.

4. The Minister administering the intended *Iron Ore (FMG Chichester Pty Ltd) Agreement* will establish a formal review mechanism to ensure that a bond is placed on the proponent at the appropriate time to ensure the adherence and completion of environmental programs.

**Notes**

1. The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment over the fulfilment of the requirements of the conditions.

2. The proponent is required to apply for a Works Approval, Licence and/or Registration for this project under the provisions of Part V of the *Environmental Protection Act 1986.*

3. Within this statement, to "have in place" means to "prepare, document, implement and maintain for the duration of the proposal".

4. Compliance and performance reporting will endeavour to be in accord with the timing requirements of the intended *Iron Ore (FMG Chichester Pty Ltd) Agreement Act.*

**HON MARK McGOWAN MLA**
**MINISTER FOR THE ENVIRONMENT;**
**RACING AND GAMING**

24 APR 2006

# Schedule 1

**The Proposal (Assessment No. 1577)**

The proposal (see location figures 1 and 2) comprises:

- an iron ore mine at Cloud Break;
- a transport corridor to link the Cloud Break mine with the Stage B east-west railway from Christmas Creek;
- water storage ponds; and
- an accommodation village.

**Table 1 – Key Proposal Characteristics**

| Element | Description |
|---|---|
| Location | Cloud Break (approximately 100 kilometres NNW of Newman) |
| Main activities | Iron ore strip mining, pit backfilling, ore crushing, mine rehabilitation and closure. |
| Resource | 500 to 600 million tonnes Marra Mamba iron deposit, pit depth 0 to 70 metres. |
| Annual rate of production | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes (combined with output from Stage B mines at Christmas Creek and Mindy Mindy) will be transported by rail to port. |
| Contingent activities | Pit dewatering, excess water storage in ponds, transport of ore to rail loading facility. |
| Areas disturbed | 5500 hectares, approximately 475 hectares open working pit at any time. |
| Duration | 12 years (approximately) |
| Employment | 400 personnel for construction on-site; 400 personnel divided between on-site and local towns (mainly Newman) for the operational stage. |
| Water requirements | Supply from pit dewatering. A reverse osmosis plant may be required. |
| Power supply | Not part of this proposal. |
| Greenhouse gas emissions (excluding power supply) | Estimated 7.0 kilograms $CO_2$ equivalent produced per tonne of ore mined, plus 43,310 tonnes $CO_2$ equivalent per year on average for the 25 years after mining has ceased. |

**Figures (attached)**

Figure 1 – Regional location map

Figure 2 – Project area map

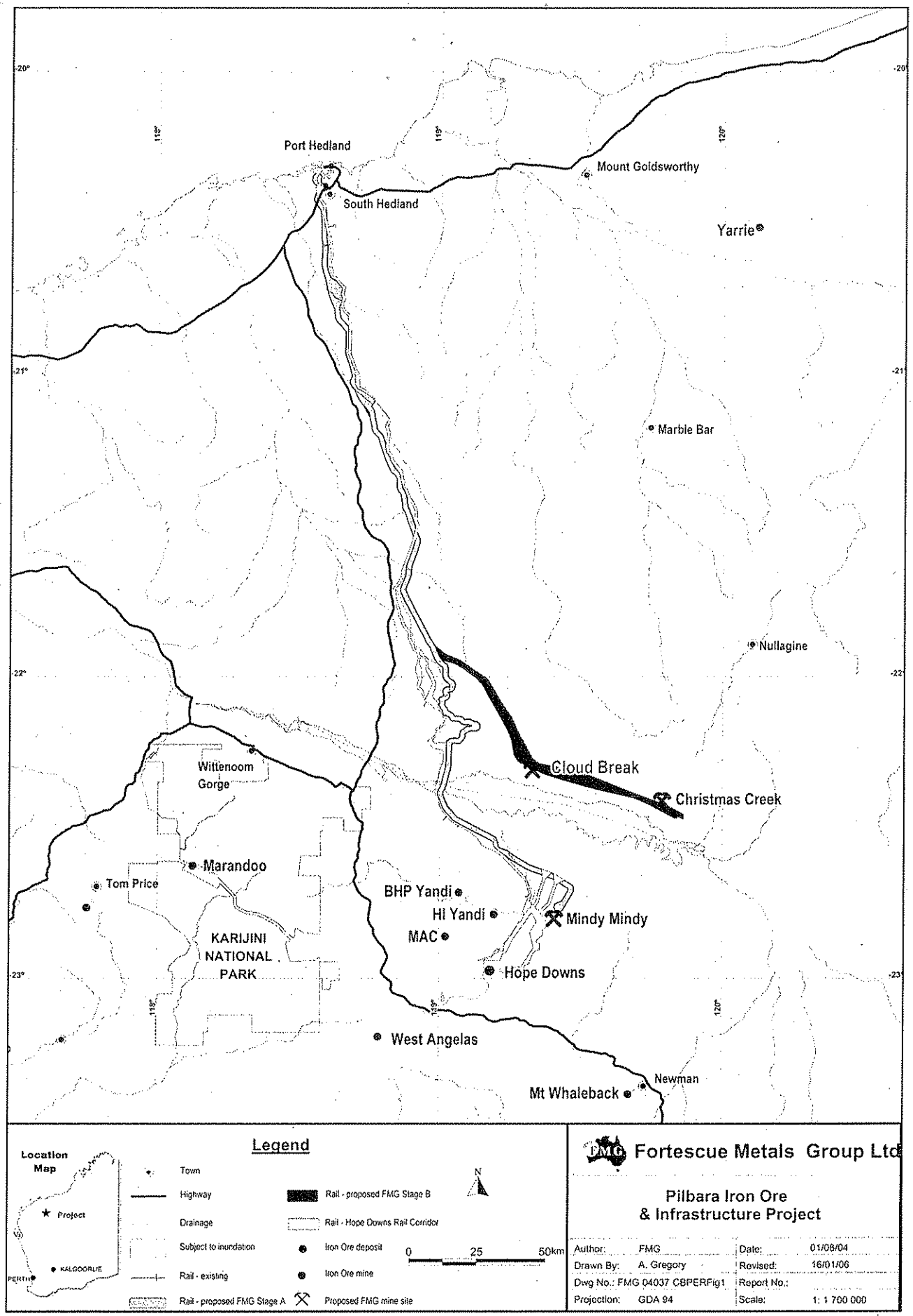


*Figure 1 – Regional location map*

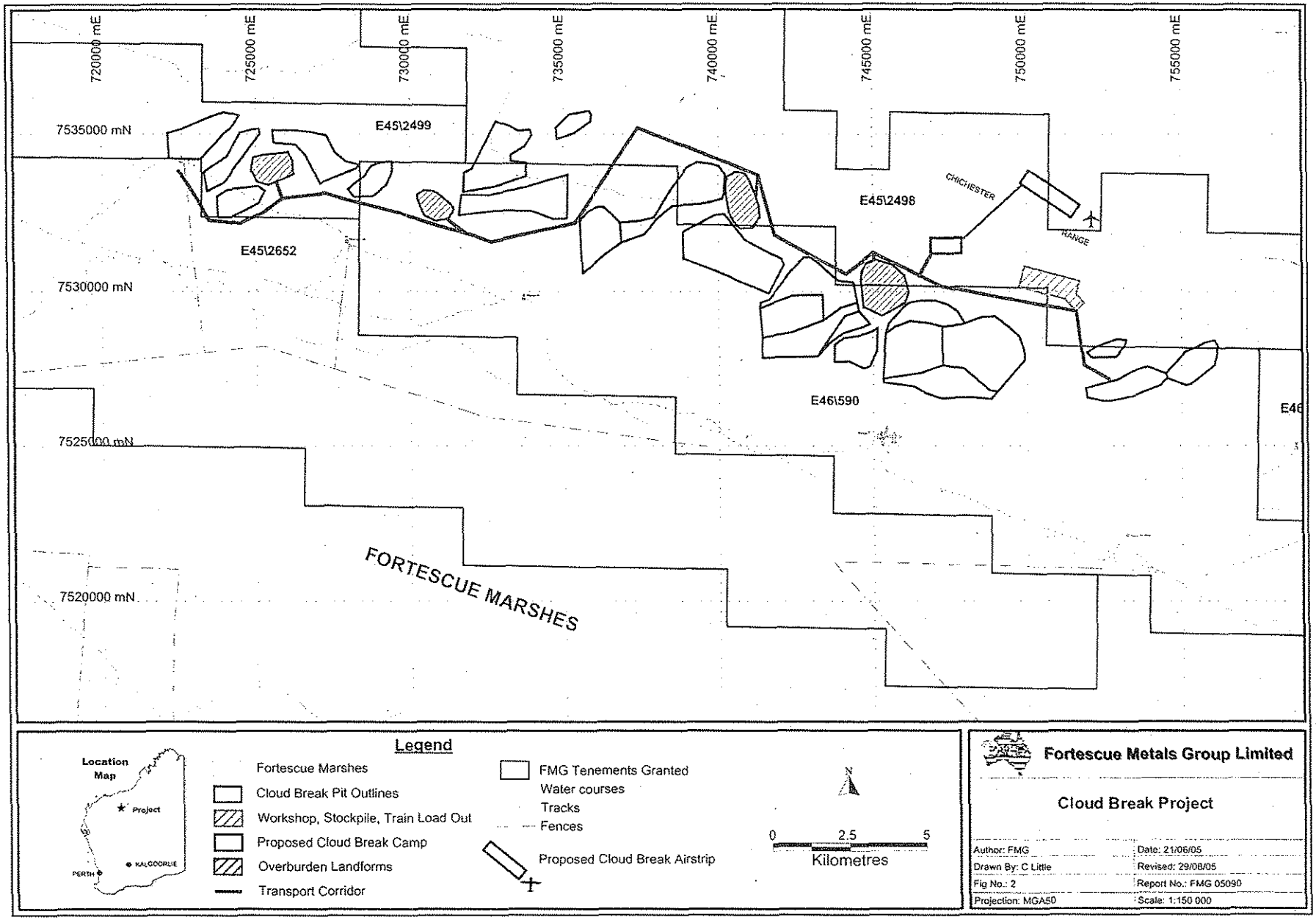


*Figure 2 – Project area map*

**Schedule 2**

Proponent's Environmental Management Commitments

January 2006

# PILBARA IRON ORE & INFRASTRUCTURE PROJECT
# CLOUD BREAK
# (No Beneficiation)

(Assessment No. 1577)

FORTESCUE METALS GROUP LTD

# Proponent's Environmental Management Commitments
# January 2006

**Pilbara Iron Ore and Infrastructure Project: Cloud Break (No Beneficiation) (Assessment No. 1577)**

**Note:** The term "commitment" as used in this schedule includes the entire row of the table and its six separate parts as follows:

- a commitment topic;
- the objective of the commitment;
- the commitment number and the 'action' to be undertaken by the proponent;
- the timing requirements of the commitment; and
- the body/agency to provide technical advice to the Department of Environment.

**Proponent's Environmental Management Commitments-Pilbara Iron Ore and Infrastructure Project**
**Cloud Break (No Beneficiation) – Assessment No. 1577 – January 2006**

| Topic | Objectives | Number / Action | Timing | Advice from |
|---|---|---|---|---|
| Environmental Management Plan (EMP) | To minimise the environmental impacts associated with the Project.<br><br>To provide a mechanism for monitoring environmental parameters, impacts, compliance with legal requirements, feedback, reporting and continual improvement. | 1. Prepare an EMP as part of the Environmental Management System (EMS), containing specific environmental management strategies for the construction of the Project. | Prior to the start of construction. | DoIR |
| | | 2. Implement the Construction EMP. | During construction. | |
| | | 3. Prepare an EMP as part of the EMS, containing specific environmental management strategies for the operation of the Project. | Prior to commissioning. | DoIR |
| | | 4. Implement the Operational EMP. | During construction and operations. | |
| | | 5. Ensure that all personnel and contractors comply with the requirements of the EMPs and are made aware of their obligations through an Environmental Awareness Training programme. | During construction and operations. | DOCEP |
| Weed Hygiene and Management Plan | Maintain the abundance, species diversity, geographic distribution, and productivity of vegetation communities. | 6. Prepare a Weed Hygiene and Management Plan which contains procedures to minimise the introduction and spread of weeds, including:<br>• identifying target weeds;<br>• hygiene inspection and washdown procedures for all mobile plant and equipment;<br>• control measures that may be necessary for some species;<br>• monitoring and any follow-up control including reporting to relevant authorities. | Prior to construction. | CALM/AgWA |
| | | 7. Implement the Weed Hygiene and Management Plan. | During construction, operations, and decommissioning. | |
| | | 8. Ensure sites (including temporary construction camps) have contained wash down facilities. | During construction, operations and decommissioning. | |

| Topic | Objectives | Number / Action | Timing | Advice from |
|---|---|---|---|---|
| Fire Management Plan | Reduce the risk of unplanned fires and provide contingency measures to minimise any impacts in the event that a fire starts. | 9. Prepare a Fire Management Plan to include:<br>• installation of necessary fire breaks;<br>• safe work procedures for all welding and grinding work;<br>• personal fire hazard procedures;<br>• vehicle fire hazard procedures;<br>• emergency fire response procedures; and<br>• bushfire contingency plans.<br><br>10. Implement the Fire Management Plan. | Prior to construction.<br><br>During construction and operations. | CALM/FESA/ DOCEP |
| Mine dewatering | Maintain or improve the quality and quantity of groundwater to ensure that existing and potential uses, including ecosystem maintenance, are protected. | 11. Continue to investigate alternative options for disposal of potentially saline water from mine dewatering.<br><br>12. Implement, if required, an alternative option acceptable to the Water and Rivers Commission (WRC) for disposal of saline water from mine dewatering.<br><br>13. Manage any potential impacts associated with the implementation of any alternative options for the disposal of potentially saline water from mine dewatering. | Prior to commencement of dewatering activities.<br><br>Prior to commencement of saline dewatering activities. | WRC<br><br>WRC<br><br>WRC |
| Dust Management Plan: construction | Protect the surrounding land users such that dust and particulate emissions will not adversely impact upon their welfare and amenity or cause health problems, and ensure that dust emissions, both individually and cumulatively, meet appropriate criteria and do not cause environmental or human health problems. | 14. Prepare a Construction Dust Management Plan which addresses:<br>• minimising clearing (as practicable)<br>• minimising the generation of dust and impacts and emissions on and off site;<br>• dust control measures; and<br>• outlines a complaints and response process.<br><br>15. Implement the Construction Dust Management Plan. | Prior to construction.<br><br>During construction. | DoIR |

| Topic | Objectives | Number / Action | Timing | Advice from |
|---|---|---|---|---|
| Dust Management Plan: operations | Protect the surrounding land users such that dust and particulate emissions will not adversely impact upon their welfare and amenity or cause health problems, and ensure that dust emissions, both individually and cumulatively, meet appropriate criteria and do not cause environmental or human health problems. | 16. Prepare an Operations Dust Management Plan which addresses:<br>• minimising the generation of dust and impacts and emissions on and off site;<br>• dust control measures;<br>• ore stockpiles moisture content;<br>• dust monitoring; and<br>• outlines a complaints and response process.<br>17. Implement the Operations Dust Management Plan. | Prior to commissioning.<br><br>During operations. | DoIR |
| Greenhouse Gases Management | To minimise Greenhouse Gas emissions for the Project and reduce emissions per unit product to as low as reasonably practicable, and mitigate Greenhouse Gas emissions in accordance with the Framework Convention on Climate Change 1992, and with established Commonwealth and State policies. | 18. Develop a Greenhouse Gas Management Plan which addresses efficient use of resources and equipment and other measures to reduce Greenhouse Gas emissions.<br><br>19. Implement the Greenhouse Gas Management Plan. | Prior to construction.<br><br>On commencement of construction. | |
| Water Quality – surface and groundwater | To maintain or improve the quality of surface and groundwater, to ensure that existing and potential uses, including ecosystem maintenance are protected. | 20. Treat any waste water or surface water runoff which is potentially contaminated prior to discharging to the environment.<br><br>21. Ensure potentially polluting substances are stored, bunded, and handled in accordance with appropriate standards. | During construction and operations.<br><br>During construction and operations. | |

| Topic | Objectives | Number / Action | Timing | Advice from |
|---|---|---|---|---|
| Acid Mine Drainage | Minimise the risk to the environment resulting from potentially acid forming materials. | 22. Complete sampling and analysis of materials potentially exposed during mining. | Prior to commencement of mining. | DoIR |
| | | 23. Develop an Acid Mine Drainage Management Plan if potentially acid-generating materials are likely to be disturbed. | Prior to, or during mining (as required). | DoIR |
| | | 24. Implement the Acid Mine Drainage Management Plan if potentially acid-generating materials are likely to be disturbed. | Prior to, or during mining (as required). | |
| | | 25. Undertake additional investigations (such as oxygen diffused modelling) if monitoring indicates that the cone of groundwater depression is likely to extend into black shales. | During dewatering operations (as required). | DoIR |
| Waste Management Plan | Ensure that disposal/management of wastes do not adversely affect environmental values or health, welfare and amenity of people and land uses, by meeting statutory requirements and acceptable standards. | 26. Develop a Waste Management Plan. As part of the Waste Management Plan, implement a procurement policy which minimises waste generation. | Prior to construction. | |
| | | 27. Implement the Waste Management Plan. | During construction, operations and mine closure. | |

| Topic | Objectives | Number / Action | Timing | Advice from |
|---|---|---|---|---|
| Noise Management Strategy | Ensure noise levels comply with statutory requirements and acceptable (and appropriate) standards. | 28. Prepare a Construction Noise and Vibration Management Plan which:<br>• identifies noise reduction strategies;<br>• identifies impacts on susceptible fauna, including the Night Parrot, Bilby and other species of Specially Protected (Threatened) Fauna and strategies to mitigate the impacts on them;<br>• minimises disturbance to the Fortescue Marshes and residence(s) from blasting noise generated at operations;<br>• outlines monitoring program to measure noise emissions and assess optimal placing of noise barriers. | Prior to construction. | DoIR |
| | | 29. Implement the Construction Noise and Vibration Management Plan. | During construction. | |
| | | 30. Prepare an Operational Noise and Vibration Management Plan for the Mines which:<br>• identifies noise reduction strategies;<br>• identifies impacts on susceptible fauna, including the Night Parrot, Bilby and other species of Specially Protected (Threatened) Fauna and strategies to mitigate the impacts on them;<br>• minimises disturbance to the Fortescue Marshes and residence(s) from blasting noise generated at operations;<br>• outlines monitoring program to measure noise emissions and assess optimal placing of noise barriers. | Prior to commissioning. | |
| | | 30. Implement the Operational Noise and Vibration Management Plan. | During operations. | |

| Topic | Objectives | Number / Action | Timing | Advice from |
|---|---|---|---|---|
| Aboriginal Heritage | Ensure the proposal complies with requirements of the *Aboriginal Heritage Act 1972* and that changes to the biological and physical environment resulting from the Project do not adversely affect cultural associations with the area. | 31. Complete ethnographic and archaeological surveys of the Project Area. | Prior to the start of construction. | DIA/PNTS |
| | | 32. Develop a Cultural Heritage Management Plan for the Project in consultation with the Aboriginal Traditional Owners. | During the design phase. | DIA/PNTS |
| | | 33. Implement the Cultural Heritage Management Plan in consultation with the Aboriginal Traditional Owners. | During construction, operations and decommissioning. | DIA/PNTS |
| Surface Water | To ensure that surface water flows are maintained downstream of operations of the proposal. | 34. Undertake trials to determine the potential for increased infiltration of water following the rehabilitation of mining areas. | During construction and operations | CALM<br>DoIR |
| Fortescue Marshes | To ensure that the risk to the Fortescue Marsh is minimised. | 35. Conduct further studies into the hydrology of the Fortescue Marshes. | During operations | CALM |
| Environmental Offsets | As indicated in the text of Schedule 3 (attached). | 36. Implement the Offsets Package attached in Schedule 3. | Various, as indicated. | CALM/AgWA |
| Stakeholder Consultation Strategy | To ensure continuation of consultation with stakeholders, and that outcomes are incorporated into the management of the proposal. | 37. Prepare a Stakeholder Consultation Strategy which includes:<br>- Identification of relevant stakeholders including; but not limited to, community groups, Aboriginal groups, environmental groups, local government and government agencies;<br>- Outline opportunities to discuss the management plans, monitoring programmes and studies with stakeholders; and<br>- Report on environmental performance. | Prior to construction | |
| | | 38. Implement the Stakeholder Consultation Strategy. | During construction and operations | |

**KEY (For Schedules 2 and 3)**

| | | | |
|---|---|---|---|
| AgWA | Department of Agriculture | DOIR | Department of Industry and Resources |
| CALM | Department of Conservation and Land Management | FESA | Fire and Emergency Services Authority |
| DIA | Department of Indigenous Affairs | WRC | Water and Rivers Commission |

| | | | |
|---|---|---|---|
| PNTS | Pilbara Native Title Service | DOCEP Resources Safety Div. | Department of Consumer and Employment Protection |
| DEH | Department of Environment and Heritage | DoE | Department of Environment |

**NOTE**
The words 'marsh / marshes' as used in this table have the same meaning as the words 'marsh / marshes' used elsewhere in Environmental Protection Authority Bulletin No. 1216.

**Schedule 3**

Proponent's Environmental Offsets Package

January 2006

# PILBARA IRON ORE & INFRASTRUCTURE PROJECT
# CLOUD BREAK
# (No Beneficiation)

(Assessment No. 1577)

FORTESCUE METALS GROUP LTD

Note: The Cloud Break Iron Ore mine is located in the same region as the previously assessed Stage B proposal, and the offsets package which has been developed for the Cloud Break proposal is therefore linked to the offsets for Stage B (Assessment Number 1520). In addition, the development of the offsets package for Cloud Break is to complement that which has already been developed for Stage B.

| No. | Topic | Commitment | Details |
|---|---|---|---|
| 1. | Land Acquisition | The proponent will provide adequate funds to CALM within three years following the commencement of mine operations, to enable the purchase of lands, including the area nominated for conservation in the 2015 pastoral lease and extensions to the Fortescue Marshes Reserve systems, for addition to the conservation estate. | In recognition of the conservation importance of the Fortescue Marshes to the State of Western Australia and the potential for this area to be listed as a RAMSAR wetland in the future, the proponent has committed to providing resources to CALM to enable them to acquire land, to contribute to a net conservation benefit outcome. The area nominated for exclusion from the 2015 pastoral lease negotiations for early inclusion into the conservation estate will form a priority acquisition, followed by extensions to the Fortescue Marshes reserve system (or other pastoral areas of high conservation value if extensions to the Fortescue Marshes reserve system are not achievable).<br><br>The proponent will provide the funds to CALM which are to be held in a trust fund and used to purchase lands for addition to the conservation estate. While negotiations for the areas to be purchased will be undertaken by CALM, the proponent is to be consulted as to the proposed areas to be purchased (The proponent's views will not be binding on CALM, but CALM will give those views due consideration). |
| 2. | Research Projects | The proponent will commence discussions with CALM and Academic Advisors to plan for the scope of the research projects prior to commencement of construction. | Outlined below is the range of research projects associated with the Cloud Break Offsets:<br><br>• Research into the Night Parrot;<br>• Research into the Bilby; and |

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| | | The proponent will begin providing funding to commence the research programs within One year following commencing construction of the project. | • Research into improving understanding of local conservation values, and could include short range endemic invertebrates, fire ecology of *Acacia xiphophylla* or samphires.<br><br>Fauna surveys for the proponent's Cloud Break PER identified the existence of threatened species near the project area. The proponent has committed to appropriate offsets for threatened fauna as part of the Cloud Break project.<br><br>Currently, there are no established survey techniques for the Night Parrot and this will limit the ability to develop research projects for the species. The proponent will, as part of ongoing operations, continue to undertake surveys for the Night Parrot to try to establish appropriate survey techniques. However, if and when an established technique is determined to allow the safe capture, tag and release of this species, the proponent will fund an ongoing research project into the Night Parrot<br><br>The proponent has committed to the following additional research / funding:<br><br>– One research project at PhD level or equivalent, to be run consecutively for a period of at least nine years; or<br>– A funding proposal (of similar cost to a PhD Project) which contributes to knowledge / research for the Night Parrot.<br><br>The Research Project / Funding Proposal will be developed in consultation with CALM, DoE, DEH and Academic Advisors through the following collaborative process:<br><br>– Desktop review of all current research in the Pilbara area, relevant to the potential impacts of the Cloud Break Project, concerning Night Parrot. |

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| | | | – Discussions with CALM / DEH regarding research which requires further work / funding or possible new areas of research / funding, to better understand and manage the impacts of mine infrastructure on the Night Parrot.<br>– Consultation with CALM / DEH to select an appropriate area of research / funding to be pursued.<br><br>If a PhD Project is proposed, the following process will then also be undertaken:<br><br>– Initiate discussions with CALM, DoE, DEH, Academic Advisors and Experts in the field of study selected in order to scope the Research Project further.<br>– Develop a Scoping Document describing the potential methods, timing and deliverables for the Research Project.<br>– Select a study team or individual to carry out the work, provide adequate resourcing, technical support, academic and/or expert advice and set a start date for the research.<br><br>The proponent will also develop an integrated research program aimed at further understanding and protecting the Bilby. This will include the following research projects:<br><br>– One research project at PhD thesis level or equivalent will be conducted consecutively for a period of nine years; or<br>– A funding proposal (of similar cost to a PhD Project) which contributes to knowledge/research on the Bilby.<br><br>Commencement of the research program will occur once construction is complete and will be reviewed every three years, in consultation between the proponent, CALM and Academic Advisors. The scope of research to |

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| | | | be undertaken will be developed in collaboration with CALM through the following process:<br><br>– Desktop review of all current research in the Pilbara area, relevant to impacts of the Cloud Break Project, concerning the Bilby.<br>– Discussions with CALM regarding research which requires further work or possible new areas of research.<br>– Consultation with CALM to select appropriate areas of research to be pursued, but would consider their current numbers, distribution range, populations trends and pressures on current populations.<br>– Initiate discussions with Academic Advisors and Experts in the fields of study selected in order to scope the Research Program further.<br>– Develop a Scoping Document describing the potential methods, timing and deliverables for the Research Program.<br>– Select a study team or individual to carry out various components of the work, provide adequate resourcing, technical support, academic and/or expert advice and set a start date for the research.<br><br>The above process to scope the nine year research effort will commence at the outset of Project construction. The proponent will also develop an integrated research program aimed at further understanding and the local conservation values of the Fortescue Marshes. This will include:<br><br>– One research project at PhD thesis level or equivalent to be conducted consecutively for a period of nine years; or<br>– A funding proposal (of similar cost to a PhD Project) which contributes to knowledge/research for the conservation values of the Fortescue Marshes. |

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| | | | Commencement of the research program will occur once construction is complete and will be reviewed every three years, in consultation between the proponent, CALM and Academic Advisors. The scope of research to be undertaken will be developed in collaboration with CALM through the following process:<br><br>– Desktop review of all current research in the Pilbara area, relevant to impacts of the Cloud Break Project, concerning the conservation values of the Fortescue Marshes focusing on short range endemic invertebrates, fire ecology or samphires.<br>– Discussions with CALM regarding research which requires further work or possible new areas of research. |
| 3. | Feral Animal Control Program | The proponent will provide annual funding to CALM, commencing within 12 months following the commencement of mine operations, for the feral animal control program. | The management plans which have been developed for the Night Parrot and Bilby have identified that pressures on endangered species populations includes feral predators, such as fox, cat and wild dogs, is potentially an important part of managing these species. While small scale programs will be conducted as part of the proponent's operating practices, the development of a broadscale program to control predators over a much larger area is necessary before any benefits will be registered. Therefore, in addition to funding research into the conservation of threatened fauna species, the proponent has also committed to contributing to a CALM Predator Control Program for the Fortescue Marshes area.<br><br>The Project will be ongoing for the life of the project and will be scoped between the proponent's personnel, CALM and academic experts in this field. The responsibility for the management of the program will be undertaken by CALM as part of their current Pilbara regional predator control programs. This project should commence as soon as practicable after commencement of construction of the project. If it is found that there |

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| | | | are increasing risks to threatened species from the occupation of the area by feral herbivores such as camels, horses and donkeys, the proponent and CALM will discuss the variation of the project to meet these needs. |
| 4. | Fencing | The proponent will provide adequate funding to CALM, within three years following the commencement of mine operations, for the fencing of areas set aside for conservation in the 2015 pastoral lease negotiations.<br><br>Subject to discussion with CALM, the proponent may identify strategic extensions to the fencing of the Fortescue Marshes Reserve systems. | The proponent recognises that the key pressures on threatened fauna species and native vegetation are the impacts associated with grazing activity and predators in their vicinity. While the proponent will liaise with affected landholders regarding the impacts of the project on their pastoral stations that may require the restrictions of grazing animals in certain areas, there is a broader concern regarding grazing and predator pressure on threatened fauna species.<br><br>The proponent has committed to providing funding to CALM to enable them to fence areas which they have acquired through the resources provided by the proponent for conservation purposes or areas in the vicinity of the Fortescue Marshes which contributes to the best conservation outcome for CALM. The final areas to be fenced and the type of fencing will be determined between the proponent and CALM personnel. Allocation of resources to fencing can commence once the project is operational. |

Attachment 1 to Statement 721

Change to Proposal

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**Proposal:** Pilbara Iron Ore & Infrastructure Project: Cloudbreak (No Beneficiation)

**Proponent:** Fortescue Metals Group Limited

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**Change:** Increase of dewatering to up to 25 gigalitres per annum, and reinjection to up to 18 gigalitres per annum (as shown in Figure 4).

**Key Characteristics Table:**

| Element | Description | Description of Approved Changes to Proposal |
|---|---|---|
| Location | Cloudbreak (approximately 100 kilometres NNW of Newman) | Cloudbreak (approximately 100 kilometres NNW of Newman) |
| **Mining** | | |
| Main activities | Iron ore strip mining, pit backfilling, ore crushing, mine rehabilitation and closure. | Iron ore strip mining, pit backfilling, **ore processing, transport of ore to rail loading facility, ore loading to rail, and** mine rehabilitation and closure. |
| Resource | 500 to 600 million tonnes Marra Mamba iron deposit, pit depth 0 to 70 metres. | 500 to 600 million tonnes Marra Mamba iron deposit, pit depth 0 to 70 metres. |
| Annual rate of production | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes (combined with output from Stage B mines at Christmas Creek and Mindy Mindy) will be transported by rail to port. | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes (combined with output from Stage B mines at Christmas Creek and Mindy Mindy) will be transported by rail to port. |
| Contingent activities | Pit dewatering, excess water storage in ponds, transport of ore to rail loading facility. | **Removed – included in "Main Activities", "Dewatering Requirements" and "Dewatering Infrastructure".** |
| Area disturbed | 5500 hectares, approximately 475 hectares open working pit at any time. | **Disturbance associated with main activities, dewatering requirements and dewatering infrastructure.**<br>**Area disturbed no greater than 5,500 hectares with:**<br>- **Open working pit area no greater than 475ha at any time; and**<br>- **Clearing for dewatering infrastructure no greater than 350 hectares at any time.** |
| Duration | 12 years (approximately). | 12 years (approximately). |

| Element | Description | Description of Approved Changes to Proposal |
|---|---|---|
| Dewatering | | |
| Dewatering Requirements | | Pit dewatering, excess water storage in ponds and water reinjection.<br>- Mine dewatering no more than 25 gigalitres per annum.<br>- Water reinjection no more than 18 gigalitres per annum. |
| Dewatering Infrastructure | | Mine dewatering infrastructure including:<br>- Storage, settlement and infiltration ponds; and<br>- Pipeline and bore corridor. |
| Other | | |
| Employment | 400 personnel for construction on-site; 400 personnel divided between on-site and local towns (mainly Newman) for the operation stage. | 400 personnel for construction on-site; 400 personnel divided between on-site and local towns (mainly Newman) for the operation stage. |
| Water requirements | Supply from pit dewatering. A reverse osmosis plant may be required. | Supply from pit dewatering. A reverse osmosis plant may be required. |
| Power supply | Not part of this proposal | **Element Removed - Not part of this proposal** |
| Greenhouse Gas Emission (excluding Power Supply) | Estimated 7.0 kilograms $CO_2$ equivalent produced per tonne of ore mined, plus 43,310 tonnes $CO_2$ equivalent per year on average for the 25 years after mining has ceased. | Estimated 7.0 kilograms $CO_2$ equivalent produced per tonne of ore mined, plus 43,310 tonnes $CO_2$ equivalent per year on average for the 25 years after mining has ceased. |

**List of Figures:**
Figure 4: Approved proposal layout

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**Dr Paul Vogel**
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 25.9.09

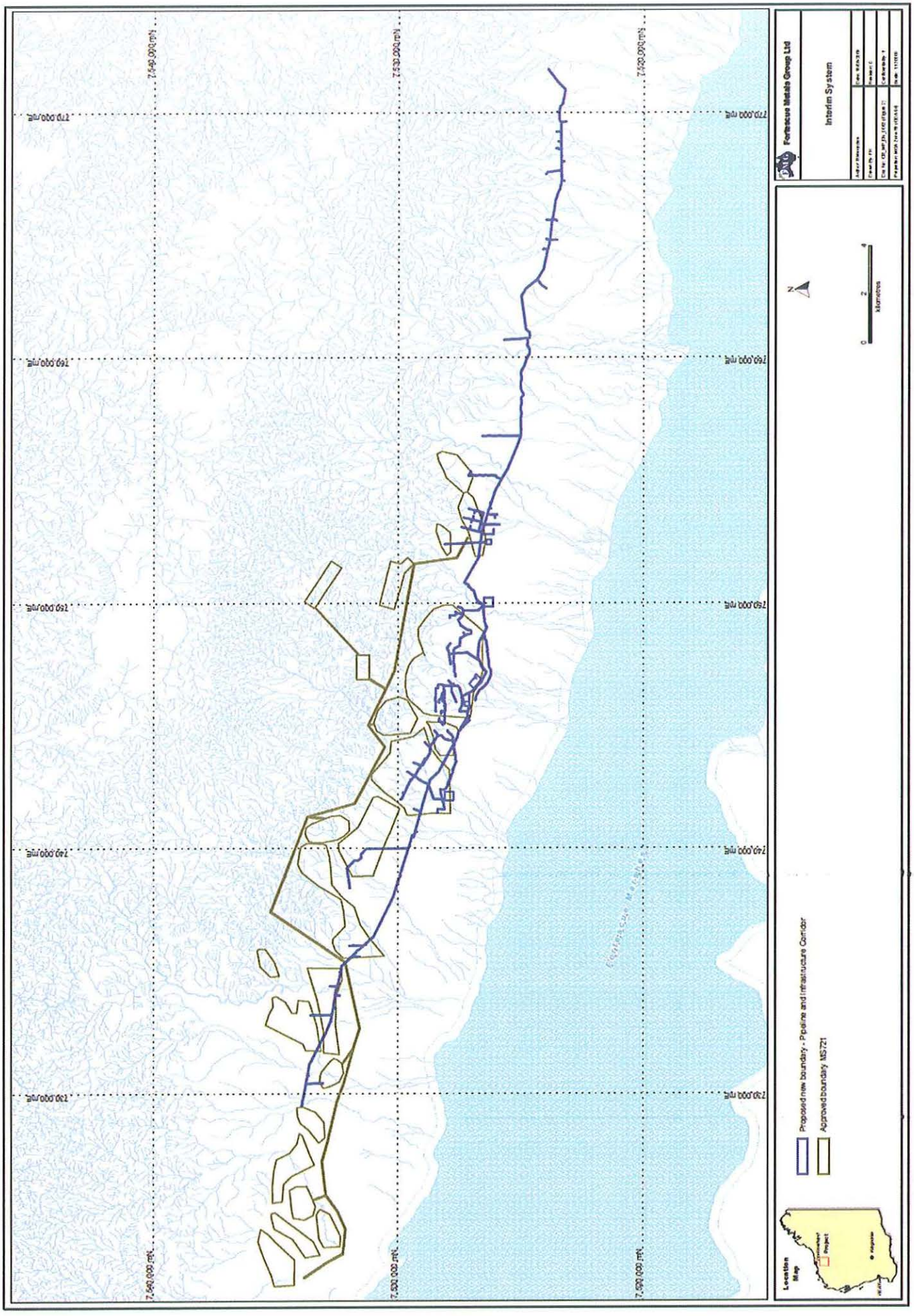


*Figure 4: Cloudbreak Approved Proposal Layout*

# Attachment 2 to Statement 721

## Change to Proposal

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**Proposal:** Pilbara Iron Ore & Infrastructure Project: Cloudbreak (No Beneficiation)

**Proponent:** Fortescue Metals Group Limited

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**Change:** Amend the layout of the Cloud Break mine-site footprint (as shown in Figure 5) and increase reinjection from 18 gigalitres per annum to 20 gigalitres per annum.

**Key Characteristics Table:**

| Element | Description | Description of Approved Changes to Proposal |
|---|---|---|
| Location | Cloudbreak (approximately 100 kilometres NNW of Newman) | Cloudbreak (approximately 100 kilometres NNW of Newman) |
| Mining | | |
| Main activities | Iron ore strip mining, pit backfilling, ore processing, transport of ore to rail loading facility, ore loading to rail, and mine rehabilitation and closure. | Iron ore strip mining, pit backfilling, ore processing, transport of ore to rail loading facility, ore loading to rail, and mine rehabilitation and closure. |
| Resource | 500 to 600 million tonnes Marra Mamba iron deposit, pit depth 0 to 70 metres. | 500 to 600 million tonnes Marra Mamba iron deposit, pit depth 0 to 70 metres. |
| Annual rate of production | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes (combined with output from Stage B mines at Christmas Creek and Mindy Mindy) will be transported by rail to port. | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes (combined with output from Stage B mines at Christmas Creek and Mindy Mindy) will be transported by rail to port. |
| Area disturbed | Disturbance associated with main activities, dewatering requirements and dewatering infrastructure.<br>Area disturbed no greater than 5,500 hectares with:<br>- Open working pit area no greater than 475ha at any time; and<br>- Clearing for dewatering infrastructure no greater than 350 hectares at any time. | Disturbance associated with main activities, dewatering requirements and dewatering infrastructure.<br>Area disturbed no greater than 5,500 hectares with:<br>- Open working pit area no greater than 475ha at any time; and<br>- Clearing for dewatering infrastructure no greater than 350 hectares at any time. |
| Duration | 12 years (approximately). | 12 years (approximately). |

| Element | Description | Description of Approved Changes to Proposal |
|---|---|---|
| Dewatering | | |
| **Dewatering Requirements** | Pit dewatering, excess water storage in ponds and water reinjection.<br>- Mine dewatering no more than 25 gigalitres per annum.<br>- Water reinjection no more than 18 gigalitres per annum. | Pit dewatering, excess water storage in ponds and water reinjection.<br>- Mine dewatering no more than 25 gigalitres per annum.<br>- Water reinjection no more than **20 gigalitres per annum**. |
| Dewatering Infrastructure | Mine dewatering infrastructure including:<br>- Storage, settlement and infiltration ponds; and<br>- Pipeline and bore corridor. | Mine dewatering infrastructure including:<br>- Storage, settlement and infiltration ponds; and<br>- Pipeline and bore corridor. |
| Other | | |
| Employment | 400 personnel for construction on-site; 400 personnel divided between on-site and local towns (mainly Newman) for the operation stage. | 400 personnel for construction on-site; 400 personnel divided between on-site and local towns (mainly Newman) for the operation stage. |
| Water requirements | Supply from pit dewatering. A reverse osmosis plant may be required. | Supply from pit dewatering. A reverse osmosis plant may be required. |
| Greenhouse Gas Emission (excluding Power Supply) | Estimated 7.0 kilograms $CO_2$ equivalent produced per tonne of ore mined, plus 43,310 tonnes $CO_2$ equivalent per year on average for the 25 years after mining has ceased. | Estimated 7.0 kilograms $CO_2$ equivalent produced per tonne of ore mined, plus 43,310 tonnes $CO_2$ equivalent per year on average for the 25 years after mining has ceased. |

**List of Figures:**
Figure 5: Approved proposal layout

**Dr Chris Whitaker**
DEPUTY CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 12 July 2010

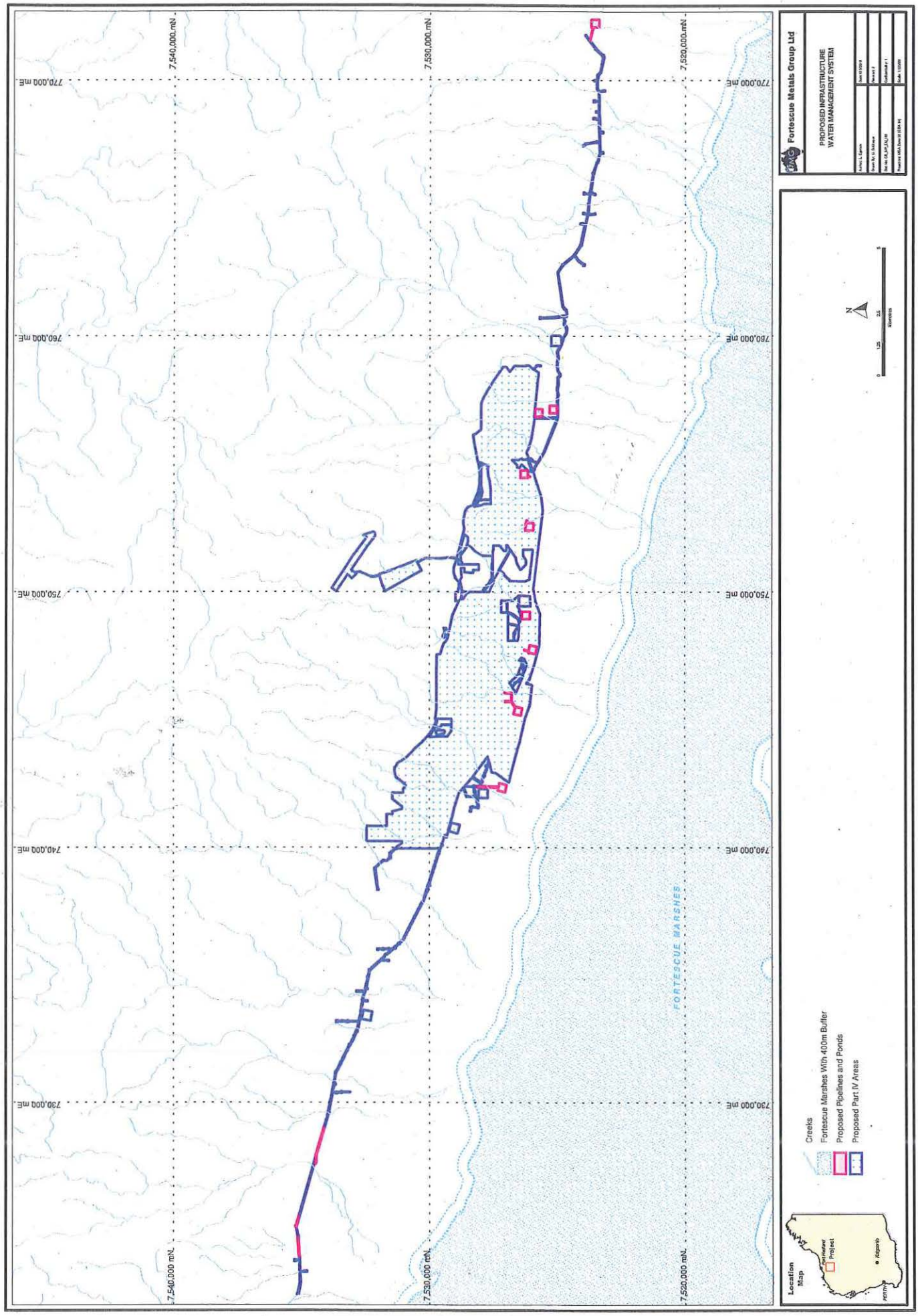


*Figure 5: Cloud Break Approved Proposal Layout*

# Attachment 3 to Statement 721

## Change to Proposal

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**Proposal:** Pilbara Iron Ore & Infrastructure Project: Cloudbreak (No Beneficiation)

**Proponent:** Fortescue Metals Group Limited

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**Change:** Increasing mine dewatering from 25 gigalitres per annum to 30 gigalitres and water injection from 20 gigalitres to 25 gigalitres and amend the annual rate of production.

**Key Characteristics Table:**

| Element | Description | Description of Approved Changes to Proposal |
|---|---|---|
| Location | Cloudbreak (approximately 100 kilometres NNW of Newman) | No Change |
| Mining | | |
| Main activities | Iron ore strip mining, pit backfilling, ore processing, transport of ore to rail loading facility, ore loading to rail, and mine rehabilitation and closure. | No Change |
| Resource | 500 to 600 million tonnes Marra Mamba iron deposit, pit depth 0 to 70 metres. | No Change |
| **Annual rate of production** | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes **(combined with output from Stage B mines at Christmas Creek and Mindy Mindy)** will be transported by rail to port. | A maximum of 30 million tonnes of high grade ore and 43 million tonnes of lower grade material (requiring beneficiation at the Christmas Creek plant). A total of 45 million tonnes will be transported by rail to port. |
| Area disturbed | Disturbance associated with main activities, dewatering requirements and dewatering infrastructure.<br>Area disturbed no greater than 5,500 hectares with:<br>- Open working pit area no greater than 475ha at any time; and<br>- Clearing for dewatering infrastructure no greater than 350 hectares at any time. | No Change |

| Element | Description | Description of Approved Changes to Proposal |
|---|---|---|
| Duration | 12 years (approximately). | No Change |
| Dewatering | | |
| **Dewatering Requirements** | Pit dewatering, excess water storage in ponds and water reinjection.<br>- Mine dewatering no more than 25 gigalitres per annum.<br>- Water reinjection no more than 20 gigalitres per annum. | Pit dewatering, excess water storage in ponds and water reinjection.<br>- Mine dewatering no more than **30 gigalitres per annum**.<br>- Water reinjection no more than **25 gigalitres per annum**. |
| Dewatering Infrastructure | Mine dewatering infrastructure including:<br>- Storage, settlement and infiltration ponds; and<br>- Pipeline and bore corridor. | No Change |
| Other | | |
| Employment | 400 personnel for construction on-site; 400 personnel divided between on-site and local towns (mainly Newman) for the operation stage. | No Change |
| Water requirements | Supply from pit dewatering. A reverse osmosis plant may be required. | No Change |
| Greenhouse Gas Emission (excluding Power Supply) | Estimated 7.0 kilograms $CO_2$ equivalent produced per tonne of ore mined, plus 43,310 tonnes $CO_2$ equivalent per year on average for the 25 years after mining has ceased. | No Change |

**List of Figures:**
Figure 5: Approved proposal layout

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**Dr Paul Vogel**
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 10 June 2011