



**MINISTER FOR THE ENVIRONMENT;
EMPLOYMENT AND TRAINING**

Statement No.

000478

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

**NEWMAN SATELLITE DEVELOPMENT - MINING OF OREBODY 23
BELOW THE WATER-TABLE**

Proposal: The mining of iron ore from the Orebody 23 deposit on the Ophthalmia Range, including dewatering operations, approximately 13 kilometres north-east of Newman, Shire of East Pilbara, as documented in schedule 1 of this statement.

Proponent: BHP Iron Ore Pty Ltd

Proponent Address: 200 St George's Terrace, Perth W A 6000

Assessment Number: 1142

Report of the Environmental Protection Authority: Bulletin 888

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following conditions and procedures:

1 Implementation

- 1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 1-2 Where, in the course of implementing the proposal, the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

2 Proponent Commitments

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

Published on

-- 8 JUN 1988

- 2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

3 Environmental Management System

- 3-1 In order to manage the environmental impacts of the project, and to fulfil the requirements of the conditions and procedures in this statement, prior to construction, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:

- 1 environmental policy and commitment;
- 2 planning of environmental requirements;
- 3 implementation and operation of environmental requirements;
- 4 measurement and evaluation of environmental performance; and
- 5 review and improvement of environmental outcomes.

- 3-2 The proponent shall implement the environmental management system referred to in condition 3-1.

4 Performance Review

- 4-1 Within two years following the commencement of mining below the water-table, the proponent shall submit a Performance Review to evaluate the environmental performance relevant to:

- 1 environmental objectives reported on in Environmental Protection Authority Bulletin 888;
- 2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;
- 3 environmental management system environmental management targets;
- 4 Environmental Management Programs and Plans; and
- 5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment following consideration of the Performance Review.

5 Proponent

- 5-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the Environmental Protection Act 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 in respect of the proposal.

5-2 Any request for the exercise of that power of the Minister referred to in condition 5-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.

5-3 The proponent shall notify the Minister for the Environment of any change of proponent contact name and address within 30 days of such change.

6 Commencement

6-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.

6-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.

6-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement.

6-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

7 Compliance Auditing

7-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

7-2 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.

7-3 Where compliance with any condition or procedure is in dispute, the matter will be determined by the Minister for the Environment.

Note

1 The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the Environmental Protection Act.

CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

- 5 JUN 1998

Schedule 1

The Proposal

The proposal is to mine iron ore at Orebody 23, approximately 13 kilometres north-east of Newman, Shire of East Pilbara, on the Ophthalmia Range in the vicinity of the Fortescue River. Mining below the water-table to a maximum depth of 140 metres will require dewatering operations.

Key characteristics table (1142)

| Element | Description |
|---|--|
| Life of Project | 4 years |
| Ore Reserves | 12 Million tonnes |
| Ore Mining Rate | 2 - 4 Million tonnes per annum |
| Overburden | 50 Million tonnes |
| Average Stripping Rates | 4.2 : 1 |
| Pit Depth (below existing plain level) | 140 metres |
| Pit Area | 32 hectares |
| Overburden Storage Area | 105 hectares |
| Total Area Disturbed | 137 hectares |
| Water Abstraction | 38,000 kilolitres per day (maximum) |
| Area within the 10 m drawdown contour | 360 hectares |
| Ore Processing and Trainloading | Will utilise Orebody 25 infrastructure |
| Workforce (shared with Orebody 25) | 60 people (existing - no additional people required for this proposal) |

Plans, Specifications, Charts

Figure 1: Location Plan.

Figure 2: Project Area, including proposed pit and overburden area outlines.

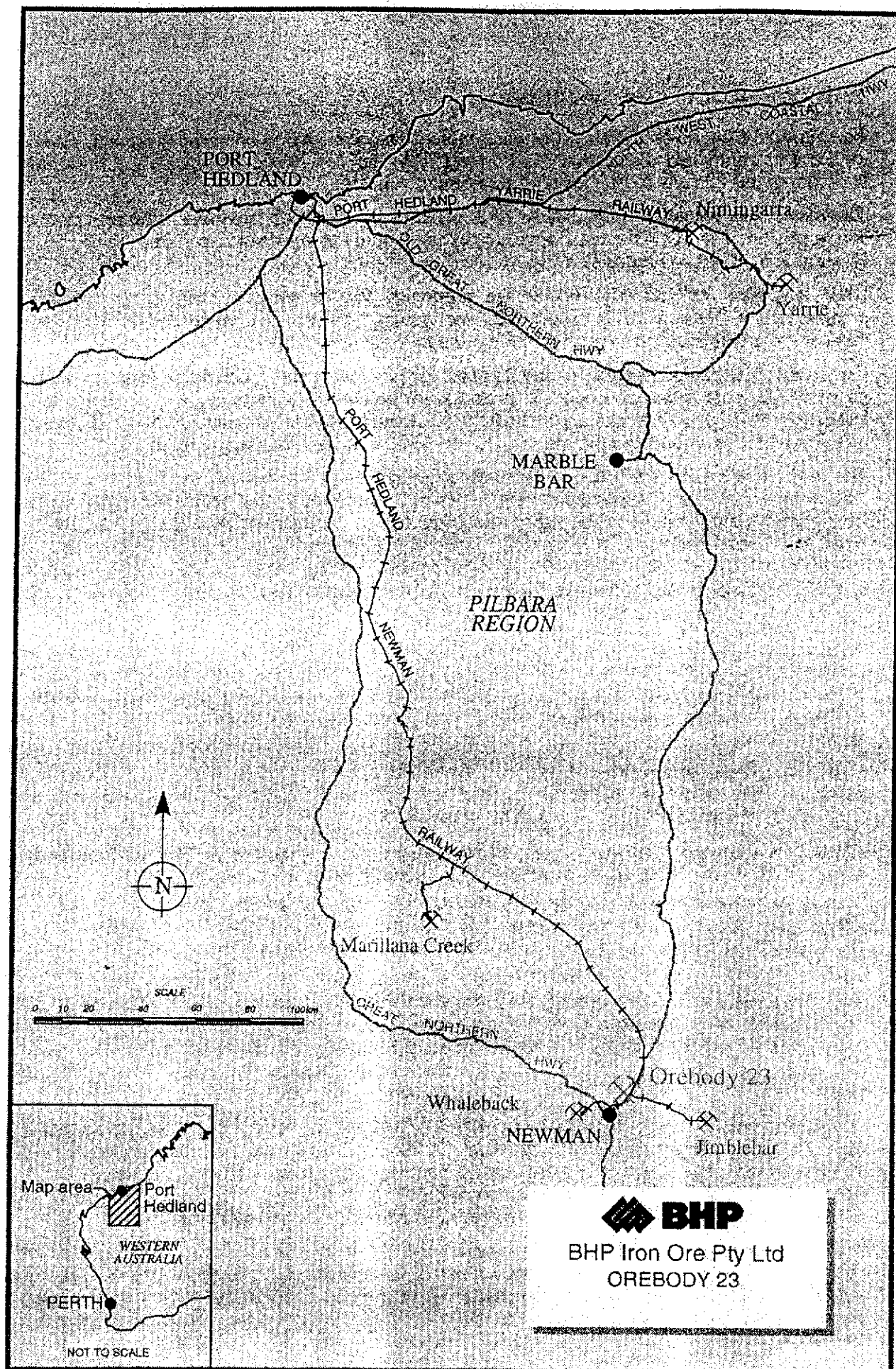


Figure 1. Location of the proposal (Source: BHPIO, 1997).

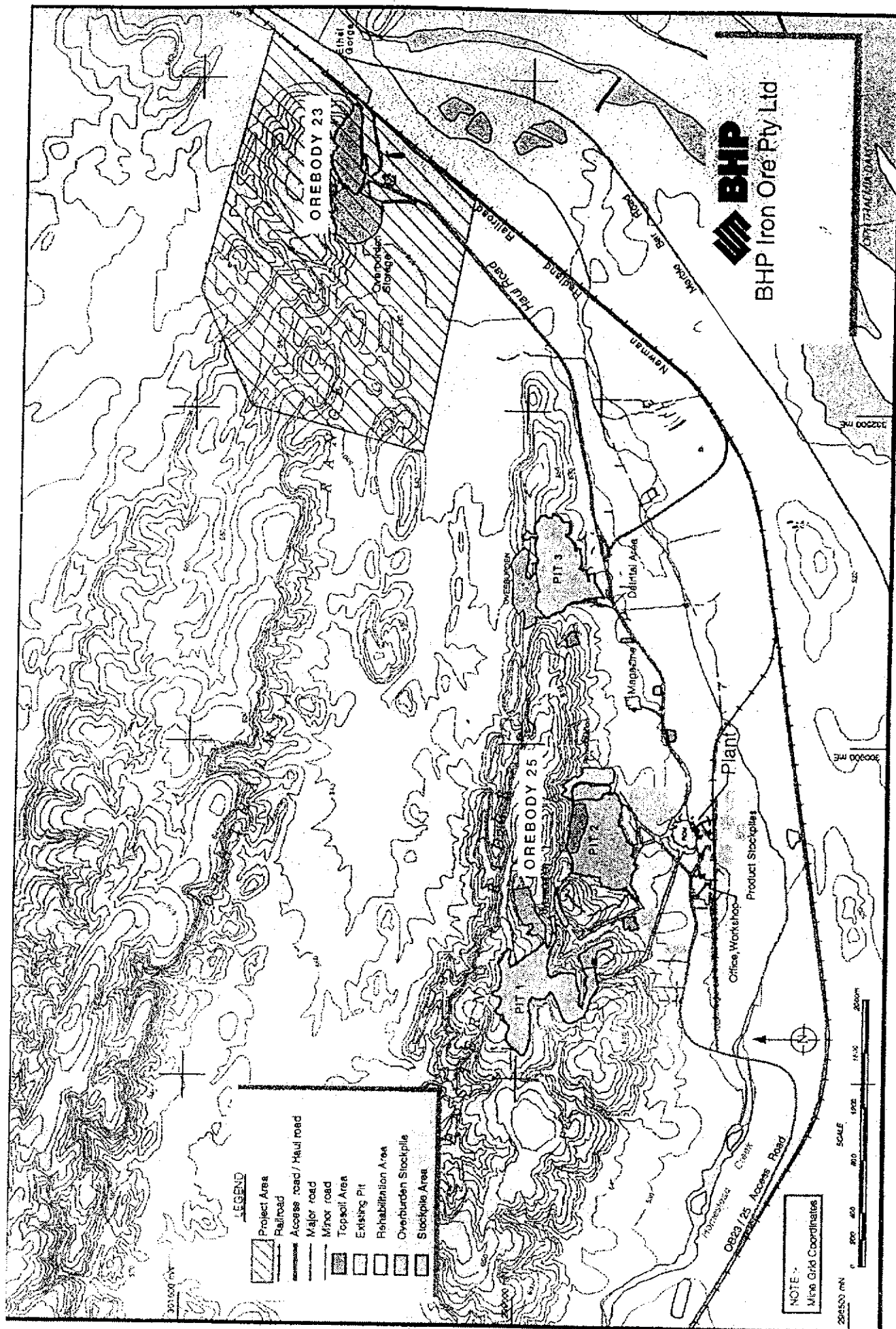


Figure 2. 'Project area' of Orebody 23 & location of an adjacent iron ore mine, Orebody 25 (Source: BHPIO, 1997).

**Proponent's Consolidated Environmental
Management Commitments**

April 1998

Newman Satellite Development
Mining of Orebody 23
below the Water-table (1142)

BHP Iron Ore Pty Ltd

SUMMARY OF PROPONENT'S COMMITMENTS (1142)

| Commitment | Objective | Action | Timing | Whose Advice | Measurement/Compliance Criteria |
|---|---|--|---|--------------|---|
| Commitment 1: Pyritic Shales | | | | | |
| BHP Iron Ore will ensure that potentially reactive pyritic shales are managed within the overburden storage areas to prevent acid generating processes occurring. Pyritic materials exposed in the pit walls will be sealed to prevent exposure to air. | To ensure that potentially reactive material is managed to prevent the generation of acid rock drainage. | Pyritic material will be stored above the groundwater table in dedicated cells within the overburden storage area. | During mining. | DME | Annual Pyritic Materials Management Report to DME. |
| Commitment 2: Water Monitoring | | | | | |
| BHP Iron Ore will supplement the existing water monitoring system to measure watertable levels throughout the Ethel Gorge Wellfield. Additionally, the quality of the water will be measured at various strategic locations throughout the system. Monitoring will take place during the mining/dewatering phase and after cessation of mining for the period of time until the aquifer has reached near pre-mining levels. | <p>To minimise the short and long-term effects caused by groundwater use.</p> <p>To monitor for changes in groundwater level and quality both during mining and for an indefinite period following the completion of mining to ensure that the beneficial use of the resource is protected.</p> | An ongoing groundwater monitoring programme will be developed and implemented to meet the requirements of the DEP. | During mining and dewatering and post-mining. | WRC DEP | WRC/DEP approved groundwater monitoring programme developed and implemented. Annual reporting to DEP/WRC. |
| Commitment 3: Pit Waterbody Monitoring | | | | | |
| BHP Iron Ore will monitor the quality of water in the pit and the adjacent aquifer following the completion of mining at Orebody 23. In addition, appropriate perimeter monitoring bores, representing aquifer water quality adjacent to the pit, will be selected with the agreement of the DEP and WRC. | To monitor for changes in pit water quality for an indefinite period following the completion of mining to ensure that the beneficial use of the resource is protected. | An ongoing pit water monitoring programme will be developed and implemented to meet the requirements of the DEP and WRC. | Post-mining. | DEP and WRC. | Pit water monitoring programme in operation. Annual reporting to DEP/WRC |

| Commitment | Objective | Action | Timing | Whose Advice | Measurement/Compliance Criteria |
|---|--|--|--|--------------|---|
| Commitment 4: Pit Waterbody Management | | | | | |
| A salinity "trigger" level for the Ethel Gorge aquifer monitoring program will be set at a value that corresponds to a statistically significant 20% increase on background levels where the increase corresponds to similar salinity increases in the flooded pit (as measured by Total Dissolved Solids). Mitigation measures will be implemented when statistically significant sustainable levels in excess of a 50% increase are recorded over a period of 12 months and corresponds to similar salinity increases in the flooded pit. | To minimise the short and long-term effects caused by groundwater use. | Investigate and, if required, implement techniques to maintain water quality consistent with agreed beneficial uses. Potential management techniques include: <ul style="list-style-type: none"> • infilling the pit • re-engineer local drainage system • operate Ophthalmia recharge facility • pump open pit for water supply | During and post-mining. | DEP | Investigations undertaken, if required, into techniques to maintain water quality. Implement, if required, agreed management techniques to maintain water quality. |
| Commitment 5: Tree Monitoring | | | | | |
| BHP Iron Ore will establish a comprehensive tree monitoring programme that will assess the impact of dewatering on the vegetation along the creek systems. | To detect potential impacts of groundwater drawdown on the phreatophytic vegetation of the area. | Develop and implement a tree monitoring programme which meets the requirements of the DEP and CALM. | Before dewatering starts. | DEP CALM | Approved Tree Monitoring Programme developed and implemented. Annual reporting to DEP/CALM. |
| Commitment 6: Tree Watering | | | | | |
| If the tree monitoring programmes (Commitment 5) indicates that dewatering is having an adverse impact on riverine vegetation, BHP Iron Ore will implement a tree watering system to sustain riverine vegetation in areas as determined by the monitoring. The watering system will operate during mining/dewatering and after the cessation of mining until the groundwater level, in identified areas, has returned to near pre-mining levels. | To minimise the impacts of groundwater drawdown on the phreatophytic vegetation of the area. | Develop and implement a tree watering programme, if required, which meets the requirements of the DEP and CALM. | If indicated as required by tree monitoring programme in Commitment 5. | DEP CALM | Implementation of approved Tree Watering Programme as required. Annual reporting to DEP/CALM. |

| Commitment | Objective | Action | Timing | Whose Advice | Measurement/Compliance Criteria |
|--|--|--|--------------------------------------|--------------|--|
| Commitment 7: Development of a Life of Project Environmental Management Plan | | | | | |
| <p>BHP Iron Ore will prepare, to a timetable agreed with the Department of Environmental Protection, and implement a Life of Project Environmental Management Plan (EMP) for the Orebody 23 Project.</p> <p>The EMP will be developed in accordance with statutory conditions applied to the approved operations. The EMP will be reviewed and updated as required.</p> <p>The EMP will address and BHP Iron Ore will commit to practice guidelines and management programs for the following environmental factors:</p> <ol style="list-style-type: none"> 1. surrounding environment; 2. vegetation and topsoil management; 3. overburden storage; 4. surface water; 5. groundwater; 6. flora; 7. fauna; 8. Aboriginal heritage; 9. noise; 10. dust; 11. waste and hazardous materials; 12. rehabilitation; 13. decommissioning; 14. contracting; and 15. continuous improvement. | To manage the environmental impact of the Project. | Develop and implement a Life of Project Environmental Management Plan to meet the requirements of the DEP and DME. | Prior to the commencement of mining. | DEP DME | Life of Project Environmental Management Plan developed. |

| Commitment | Objective | Action | Timing | Whose Advice | Measurement/Compliance Criteria |
|---|--|---|--------------------------------------|---------------------|--|
| Commitment 8: Subterranean Fauna | | | | | |
| <p>In collaboration with the Museum of Western Australia, BHP Iron Ore will:</p> <ol style="list-style-type: none"> 1. identify the stygofauna species collected in the vicinity of OB 23 by the Museum 2. assess the conservation significance of species found 3. map the local distribution of species sampled 4. undertake sampling in the Ophthalmia region if species distribution is found to be a significant conservation issue. | To determine the risk and consequence of any species of stygofauna becoming threatened or extinct as a result of future mining operations. | Design and implement an approved stygofauna assessment program in collaboration with the Museum of Western Australia. | Prior to the commencement of mining. | Museum of WA DEP | Approved assessment program implemented. |

Attachment 1 to Statement 478

Change to Proposal

Proposal: Newman Satellite Development – Mining of Orebody 23 below the watertable

Proponent: BHP Billiton Iron Ore Pty Ltd

Change: Extension to the life and maximum disturbance boundary of Orebody 23 Mine

Key Characteristics Table:

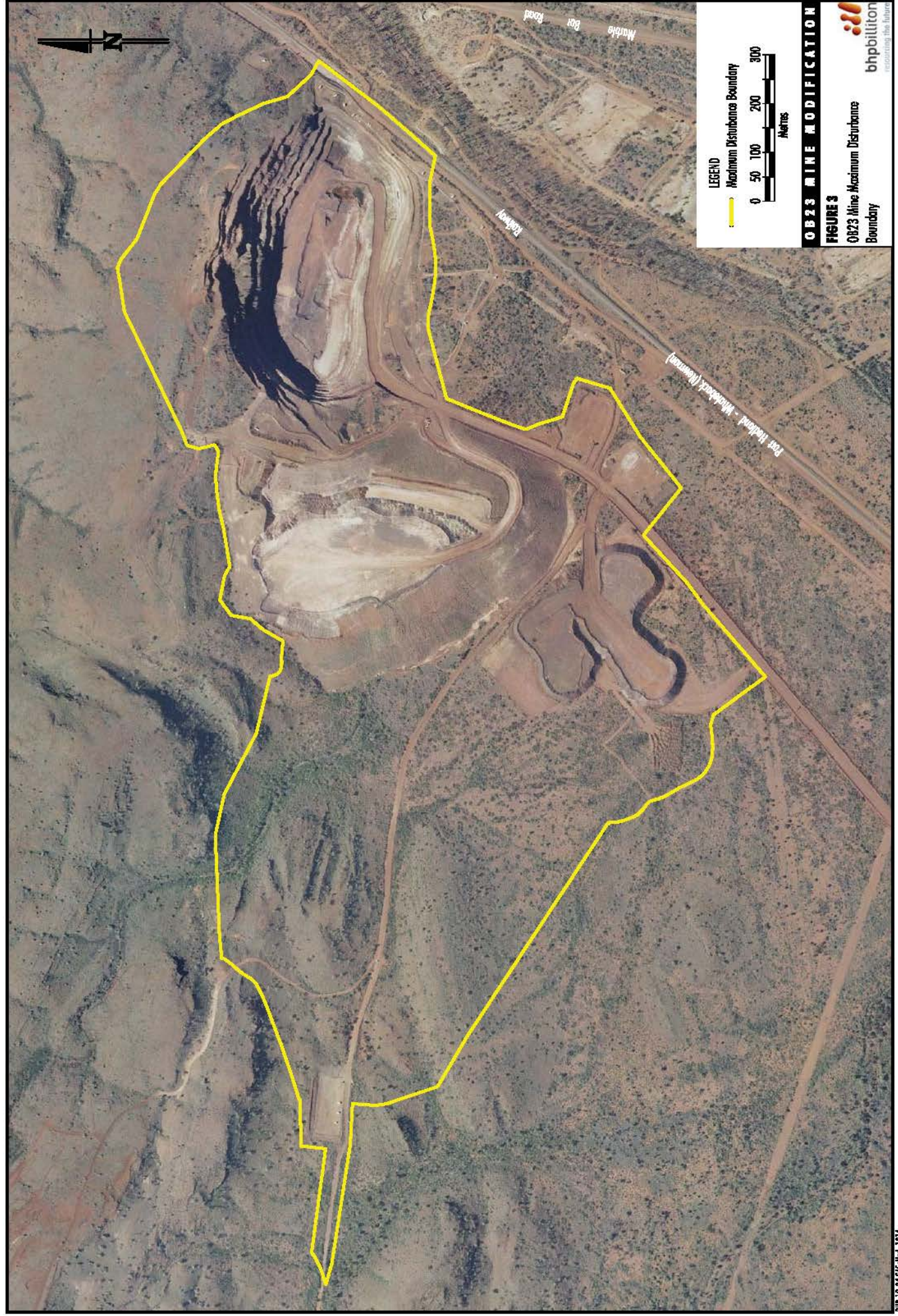
| Element | Description of proposal | Description of approved change to proposal |
|--|--|--|
| Life of Project | 4 years | Until the end of 2012 |
| Ore Reserves | 12 Million tonnes | 12 Million tonnes |
| Ore Mining Rate | 2 – 4 Million tonnes per annum | 2 - 4 Million tonnes per annum |
| Overburden | 50 Million tonnes | 50 Million tonnes |
| Average Stripping Rates | 4.2 : 1 | 4.2 : 1 |
| Pit Depth (below existing plain level) | 140 metres | 140 metres |
| Pit Area | 32 hectares | 32 hectares |
| Overburden Storage Area | 105 hectares | 105 hectares |
| Total Area Disturbed | 137 hectares | Not more than 137 hectares within a maximum disturbance boundary of 150 hectares (as shown in Figure 3) |
| Water Abstraction | 38,000 kilolitres per day (maximum) | 38,000 kilolitres per day (maximum) |
| Area within the 10 m drawdown contour | 360 hectares | Removed as no longer relevant to assessment criteria |
| Ore Processing and Trainloading | Will utilise Orebody 25 infrastructure | Will utilise Orebody 25 infrastructure |
| Workforce (shared with Orebody 25) | 60 people (existing – no additional people required for this proposal) | Removed as no longer relevant to assessment criteria |

List of Figures:

Figure 3: Orebody 23 Mine Maximum Disturbance Boundary

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 29 September 2010



Attachment 2 to Ministerial Statement 478

Change to proposal under s45C of the *Environmental Protection Act 1986*

Proposal: Newman Satellite Development – Mining of Orebody 23 below the Watertable

Proponent: BHP Billiton Pty Ltd

Change: Life of Project and Ore Mining Rate

Key Characteristics Table: This table replaces the Key Characteristics Table in Schedule 1

| <u>Element</u> | <u>Description of proposal</u> | <u>Description of approved change to proposal</u> |
|--|---|---|
| Life of Project | Until the end of 2012 | Until the end of 2032 |
| Ore Reserves | 12 Million tonnes | 12 Million tonnes |
| Ore Mining Rate | 2-4 Million tonnes per annum | Up to 4 Million tonnes per annum |
| Overburden | 50 Million tonnes | 50 Million tonnes |
| Average Stripping rates | 4.2 : 1 | 4.2 : 1 |
| Pit Depth (below existing plain level) | 140 metres | 140 metres |
| Pit Area | 32 hectares | 32 hectares |
| Overburden Storage Area | 105 hectares | 105 hectares |
| Total Area Disturbed | Not more than 137 hectares within a maximum disturbance boundary of 150 hectares (as shown in Figure 3) | Not more than 137 hectares within a maximum disturbance boundary of 150 hectares (as shown in Figure 3) |
| Water Abstraction | 38,000 kilolitres per day (maximum) | 38,000 kilolitres per day (maximum) |
| Ore Processing and Train Loading | Will utilise Orebody 25 infrastructure | Will utilise Orebody 25 infrastructure |

Note: Text in **bold** in the Key Characteristics Table, indicates change/s to the proposal.

Dr Paul Vogel
CHAIRMAN
Environmental Protection Authority
under delegated authority

Approval date: 4 December 2012