Government of Western Australia
Department of Environment Regulation

# Licence

## *Environmental Protection Act 1986,* Part V

## Licensee: BHP Billiton Iron Ore Pty Ltd

## Licence: L4503/1975/14

**Registered office:** Level 1, City Square Brookfield Place
125 -137 St Georges Terrace
PERTH WA 6000

**ACN:** 008 700 981

**Premises address:** Mt Whaleback/Orebody 29/30/35
Tenements E52/2009-I, ML244SA G52/19-G52/27, G52/276, G52/277, G52/279, K858923 and N088235
NEWMAN WA 6753
as depicted in Schedule 1

**Issue date:** Thursday, 7 November 2013

**Commencement date:** Sunday, 17 November 2013

**Expiry date:** Tuesday, 16 November 2032

**Prescribed premises category**
Schedule 1 of the *Environmental Protection Regulations 1987*

| Category number | Category description | Category production or design capacity | Approved Premises production or design capacity |
|---|---|---|---|
| 5 | Processing or beneficiation of metallic or non-metallic ore | 50 000 tonnes or more per year | 80 000 000 tonnes per annual period |
| 6 | Mine dewatering | 50,000 tonnes or more per year | 80 000 000 tonnes per annual period |
| 54 | Sewage facility | 100 cubic metres or more per day | 183.2 cubic metres per day |
| 61 | Liquid waste facility | 100 tonnes or more per year | 5 100 tonnes per annual period |
| 64 | Class II putrescible landfill site | 20 tonnes or more per year | 6 000 tonnes per annual period |
| 73 | Bulk storage of chemicals, etc. | 1 000 cubic metres in aggregate | 11 749 cubic metres |
| 85B | Water desalination plant | 0.50 gigalitres or more per year | 4.38 gigalitres per annual period |

**Conditions**
This Licence is subject to the conditions set out in the attached pages.

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**Alana Kidd**
**Manager Licensing – Resource Industries**
Officer delegated under section 20
of the *Environmental Protection Act 1986*

# Contents



# Introduction

This Introduction is not part of the Licence conditions.

**DER's industry licensing role**
The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

**Licence requirements**
This licence is issued under Part V of the Act. Conditions contained within the licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:
http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

**Licence fees**
If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

**Ministerial conditions**
If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

**Premises description and Licence summary**
BHP Billiton Iron Ore Pty Ltd (BHPBIO) operates the Mt Whaleback Orebody 29/30/35 Iron Ore Mine. The Mine is located on tenements E52/2009, ML244SA and G52/19-G52/277 and is approved under the *Iron Ore (Mount Newman) Agreement Act 1964.*

The mine is located approximately five kilometres (km) west of Newman township and commenced operation in 1969. The ore from the Mt Whaleback deposit is combined with the product from smaller adjacent satellite mines to produce the Mt Newman Joint Venture blend. The satellite orebodies (OB), which currently supplement production at Mt Whaleback, include, OB24/25, OB29, OB30 and OB35. Iron Ore from the site is transported approximately 426km by rail to Port Hedland Operations at Nelson Point.

Iron ore at Mt Whaleback is mined by conventional open cut methods. The ore is drilled and blasted and then loaded onto haul trucks and processed using primary and secondary crushers. The ore is then conveyed to the Newman Hub which includes a car dumper, reclaiming facilities stockyards and a crushing and screening plant. The ore with lower iron level is further processed through a beneficiation plant, removing some of the non-ferrous material. Product from the plant is conveyed to stockpiles and the tailings are thickened and pumped to the tailings storage facility (TSF).

Mine dewatering is undertaken to allow mining of ore below the water table. Mine dewater is pumped to the XD57 water storage tank, from where it is used on site for dust suppression and ore processing purposes. Excess mine dewater is discharged to Ophthalmia Dam at a rate of up to 8 gigalitres per annum (GLpa).

Ancillary facilities at the mine site include administration facilities and an industrial area providing maintenance, storage and fabrication support for the mine and rail.

Approximately 15% of mining overburden at Mt Whaleback is potentially acid forming (PAF) pyritic shales. When exposed to the atmosphere, the PAF material oxidise and produce significant heat and sulfur dioxide and carbon dioxide gases. When combined with water these materials can produce dilute sulfuric acid, commonly known as Acid Mine Drainage (AMD). The existing AMD facility was constructed to manage the AMD at Mt Whaleback, and consists of a dam and five shallow evaporation ponds. The ponds have a compacted clay lined floor to prevent seepage and a storage capacity of 560 megalitres (ML).

A liquid waste facility is located at the mine site. Liquid waste is collected from other BHPBIO sites and transported by controlled waste contractor to the liquid waste facility. The liquid waste consists only of waste oil and is stored onsite in a purpose built tank. The waste oil is then transferred to larger trucks for transport by controlled waste carrier to the treatment facility in Kalgoorlie.

Wastewater from the Yarnima Power Station (L8803/2013/1) reverse osmosis (RO) water treatment plant (WTP) and blowdown water from the heat recovery system generation and the cooling tower is discharged into the AMD evaporation ponds. A pipeline carries the water from the Yarnima site to the evaporation ponds. The peak flow of reject water from the power station and

WTP is expected to be approximately 5.5 ML per day and the reject water will have a Total Dissolved Solids (TDS) concentration of up to 5,900 mg/L. The Licensee also has a contingency option for RO reject water disposal which involves up to 6 ML per day of RO reject water being discharged to Ophthalmia Dam for a period of up to 8 weeks per annual period.

BHPBIO operates inert landfills, a putrescible landfill and a tyre dump at the site which accepts waste material generated onsite. There are also two asbestos disposal sites operated onsite which accept Type 1 Special Wastes (Asbestos) contained within demolition debris waste from onsite and from other BHPBIO premises in the vicinity of Newman. Fibrous material from drill holes during exploration and production drilling is also disposed of at the asbestos disposal sites. Bulk fuel storage facility on site consists of 3 steel vertical tanks which have the capacity to store up to 11,749 cubic metres of fuel. The facility is compliant with Australian standards and is fitted with high level alarms.

The site has eight sewage treatment facilities (STF) located around the premises. Six of the plants discharge treated effluent to designated irrigation areas, one discharges to a lined evaporation pond and one to an unlined evaporation/infiltration pond.

A RO water treatment plant (WTP) with a design capacity of 12 ML/day operates at the site and produces potable water for the town of Newman. The plant can produce up to 6 ML/day of reject water depending on the nature of the source water. BHPBIO has recently completed construction of an upgraded, 16.5 ML/day capacity WTP to replace the existing facility. The new WTP is currently in the commissioning phase. The reject water is discharged to the AMD evaporation ponds. DMP have approved the use of the AMD evaporation ponds for this use.

This Licence is the result of an amendment sought by the Licensee to update the premises address and include an additional asbestos disposal location within the premises boundary.

The licences and works approvals issued for the Premises since 17/11/2000:

| **Instrument log** | | |
|---|---|---|
| **Instrument** | **Issued** | **Description** |
| L4503/1975/5 | 17/11/2000 | First licence noted in the Industry Licensing System |
| L4503/1975/6 | 17/11/2001 | Licence reissue |
| L4503/1975/7 | 17/11/2002 | Licence reissue |
| L4503/1975/8 | 17/11/2003 | Licence reissue |
| L4503/1975/9 | 17/11/2004 | Licence reissue |
| L4503/1975/10 | 17/11/2005 | Licence reissue |
| L4503/1975/11 | 17/11/2006 | Licence reissue |
| W4255/2006/1 | 8/03/2007 | Works approval for the construction of processing infrastructure (car dumper, crushing and screening plant and ore stockyard) |
| L4503/1975/12 | 17/11/2007 | Licence reissue |
| L4503/1975/13 | 17/11/2010 | Licence reissue |
| W4972/2011/1 | 4/08/2011 | Works approval for category 85B |
| W5017/2011/1 | 6/10/2011 | Works approval for the installation of a Biomax wastewater treatment plant (STF) and hydrocarbon storage area at the expanded warehouse |
| W5024/2011/1 | 6/10/2011 | Works approval for the installation of a Biomax STF at the new drug and alcohol testing facility at the Newman gatehouse |
| L4503/1975/13 | 22/12/2011 | Licence amendment to increase capacity of category 5 to 58Mtpa, change premises boundary and include category 61 to the licence |
| L4503/1975/13 | 16/02/2012 | Licence amendment to include category 85B constructed under W4972/2011/1 |
| W5242/2012/1 | 6/09/2012 | Works approval to construct a new movable (mobile) crushing and screening plant, with a design capacity of 5Mtpa |
| L4503/1975/13 | 7/11/2012 | Licence amendment to incorporate three additional water treatment cells to the existing Newman temporary water treatment plant |
| L4503/1975/14 | 7/11/2013 | Licence reissue |
| L4503/1975/14 | 9/10/2014 | Licence amendment – additional discharge points and REFIRE format |
| L4503/1975/14 | 11/06/2015 | Licence amendment – two inert landfills, oily water separator |

| | | |
|---|---|---|
| | | treated wastewater evaporation pond and contingency discharge point, extension of the hydrodynamic trial timeframe and disposal of used conveyor belts |
| L4503/1975/14 | 28/04/2016 | Licence amendment to extend the duration of the hydrodynamic trial. |
| L4503/1975/14 | 30/06/2016 | Licence amendment to include category 6, increase category 73 approved design capacity, contingency discharge of RO reject water to Ophthalmia Dam, increase in RO reject water discharge to AMD facility, remove WWTPs less than 20 $m^3$ per day capacity and updates to monitoring requirements. |
| L4503/1975/14 | 1/09/2016 | Licence amendment to update the premises address and include a new asbestos disposal location. |

**Severance**

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

**END OF INTRODUCTION**

# Licence conditions

## 1 General

### 1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

**'Act'** means the *Environmental Protection Act 1986;*

**'Acceptance Criteria'** has the meaning defined in Landfill Definitions**;**

**'AMD'** means Acid Mine Drainage;

**'annual period'** means the inclusive period from 1 July until 30 June in the following year;

**'AS 3580.1.1'** means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment;*

**'AS 3580.9.11'** means the Australian Standard AS 3580.9.11 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - $PM_{10}$ beta attenuation monitors;*

**'AS/NZS 5667.1'** means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

**'AS/NZS 5667.4'** means the Australian Standard AS/NZS 5667.4 *Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made;*

**'AS/NZS 5667.6'** means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams;*

**'AS/NZS 5667.10'** means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters;*

**'AS/NZS 5667.11'** means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

**'asbestos'** means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysolite, crocidolite, tremolite and any mixture containing 2 or more of those;

**'asbestos fibres'** has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009);

**'averaging period**' means the time over which a limit or target is measured or a monitoring result is obtained;

**'Clean Fill'** has the meaning defined in Landfill Definitions;

**'controlled waste'** has the definition in *Environmental Protection (Controlled Waste) Regulations* 2004;

**'CEO'** means Chief Executive Officer of the Department of Environment Regulation;

**'CEO'** for the purpose of correspondence means;

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

**'freeboard'** means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

**'Inert Waste Type 1'** has the meaning defined in Landfill Definitions;

**'Inert Waste Type 2'** has the meaning defined in Landfill Definitions;

**'Landfill Definitions'** means the document titled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer of the Department of Environment as amended from time to time;

**'Licence'** means this Licence numbered L4503/1975/14 and issued under the Act*;*

**'Licensee'** means the person or organisation named as Licensee on page 1 of the Licence;

**'NATA'** means the National Association of Testing Authorities, Australia;

**'NATA accredited'** means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

**'PM'** means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

**'$PM_{10}$'** means particles with an aerodynamic diameter of less or equal to 10 µm;

**'Premises'** means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

**'Putrescible'** has the meaning defined in Landfill Definitions;

**'quarterly'** means the 4 inclusive periods from, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March, 1 April to 30 June;

**'rehabilitation'** means the completion of the engineering of a landfill cell and includes capping and/or final cover;

**'RO'** means reverse osmosis;

**'Schedule 1'** means Schedule 1 of this Licence unless otherwise stated;

**'Schedule 2'** means Schedule 2 of this Licence unless otherwise stated;

**'Special Waste Type 1'** has the meaning defined in Landfill Definitions;

**'spot sample'** means a discrete sample representative at the time and place at which the sample is taken;

**'STF'** means sewage treatment facility;

**'STP dry'** means standard temperature and pressure ($0^{o}$Celsius and 101.325 kilopascals respectively), dry;

**'tipping area'** means the area of the landfill in which waste other than cover material is being deposited;

**'usual working day'** means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia; and

**'µS/cm'** means microsiemens per centimetre.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

### 1.2 Premises operation

1.2.1 The Licensee shall only accept waste on to the landfill, asbestos disposal areas, sewage treatment plants and liquid waste facility if:
(a) it is of a type listed in Table 1.2.1;
(b) the quantity accepted is below any quantity limit listed in Table 1.2.1; and
(c) it meets any specification listed in Table 1.2.1 .

**Table 1.2.1: Waste acceptance**

| Waste type | Quantity limit | Specification [1] |
|---|---|---|
| Inert Waste Type 1 | 6 000 tonnes/year | None specified |
| Inert Waste Type 2 | | Tyres and plastic only |
| Putrescible Waste | | None specified |
| Clean Fill | | None specified |
| Special Waste Type 1 | | Cement bonded and fibrous asbestos |
| Controlled waste category 6: oils and emulsions | 5 100 tonnes/year | None specified |
| RO reject water discharge | 11 800 tonnes/year Total Dissolved Solids<br><br>2 000 ML/yr | Discharged to AMD evaporation ponds with a Total Dissolved Solids less than 5 900 mg/L |
| Sewage | 183.2 $m^3$/day | Accepted through sewer inflow(s) only |

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*

1.2.2 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1.2.1 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.

1.2.3 The Licensee shall ensure that wastes accepted onto the landfill, sewage treatment facility and liquid waste facility are only subjected to the process(es) set out in Table 1.2.2 and in accordance with any process limits described in that Table.

**Table 1.2.2: Waste processing**

| Waste type(s) | Process | Process limits [1,2] |
|---|---|---|
| All | Disposal of waste by landfilling | Shall only take place within the areas shown in Schedule 1.<br><br>No waste shall be temporarily stored or landfilled within 35 m from the boundary of the premises.<br><br>The separation distance between the base of the landfill and the highest groundwater level shall not be less than 2 m. |

| | | |
|---|---|---|
| Clean Fill<br>Inert Waste Type1 | Receipt, handling and disposal by landfilling | None specified |
| Inert Waste Type 2 – Tyres[1] and used conveyor belts | Receipt, handling, storage prior to disposal by landfilling | To be stored in piles of up to 100 units with a 6 m separation distance between piles.<br><br>Shall only be buried in overburden storage areas located within the prescribed premises boundary shown in Schedule 1. |
| Putrescible Waste | Receipt, handling, storage prior to disposal by landfilling | Shall only be placed in the putrescible landfill shown in Schedule 1. |
| Special Waste Type 1 (Asbestos Waste[2]) | Receipt, handling and disposal by landfilling | Shall only be disposed of into the designated asbestos disposal area shown in Schedule 1.<br><br>Not to be deposited within 2m of the final tipping surface of the landfill.<br><br>No works shall be carried out on the landfill that could lead to a release of asbestos fibres. |
| Controlled waste: oils and emulsions | Receipt, handling and storage prior to removal from site | Only stored in designated storage tanks as depicted in Schedule 1. |
| RO brine | Receipt and disposal by evaporation | Only disposed of at the AMD evaporation ponds as depicted in Schedule 1. |
| Tailings | Treatment and storage | Only stored in Tailings Storage Facility (TSF) as depicted in Schedule 1.<br><br>A minimum freeboard of 300 mm maintained at the TSF. |
| Sewage | Biological, physical and chemical treatment | None specified |
| Sewage sludge | Drying and storage | None specified |

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations1987.*
Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*

1.2.4 The Licensee shall manage the landfilling activities to ensure:
(a) waste is levelled and compacted as soon as practicable after it is discharged;
(b) waste is placed and compacted to ensure all faces are stable and capable of retaining rehabilitation material; and
(c) rehabilitation of a cell or phase takes place within 6 months after disposal in that cell or phase has been completed.

1.2.5 The Licensee shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.2.3 and that sufficient stockpiles of cover are maintained on site at all times.

**Table 1.2.3: Cover requirements [1]**

| Waste Type | Material | Depth | Timescales |
|---|---|---|---|
| Inert Waste type 1 | N/A | N/A | No cover required |
| Inert Waste Type 2 | Type 1 Inert waste, clean fill or soil | 100 mm | As soon as practical following the achievement of final process limits |
| Putrescible Waste | | 150 mm | As soon as practicable and not later than weekly |
| | | 1 000 mm | Within 3 months of achieving final waste contours |
| Special Waste Type 1 | | 300 mm | As soon as practicable after deposit and prior to compaction |
| | | 1 000 mm | By the end of the working day in which the asbestos waste was deposited |

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

1.2.6 The Licensee shall prevent unauthorised access to the landfill.

1.2.7 The Licensee shall ensure that wind-blown waste is contained within the boundary of the Premises and that wind-blown waste is returned to the tipping area on at least a monthly basis.

1.2.8 The Licensee shall manage the wastewater treatment evaporation and infiltration pond such that:
(a) overtopping of the ponds does not occur;
(b) a freeboard at or below 500mm is maintained;
(c) the integrity of the containment infrastructure is maintained; and
(d) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.

1.2.9 The Licensee shall manage the wastewater treatment vessels such that:
(a) overtopping of the wastewater treatment vessels does not occur;
(b) stormwater runoff is prevented from entering the wastewater treatment vessels; and
(c) vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the wastewater treatment vessels.

1.2.10 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds listed in Table 1.2.4 and identified in Schedule 1 in accordance with the requirements specified within Table 1.2.4.

**Table 1.2.4: Containment Infrastructure**

| Storage vessel or compound | Material | Requirements |
|---|---|---|
| P2 OWWTP evaporation pond | Treated water from the Mobile Equipment Workshop oily water separator | • 1.5 mm HDPE lined evaporation pond to achieve a permeability of $<10^{-9}$ m/s; and<br>• minimum vertical freeboard of 300 mm during normal operations |
| EPCO STF unlined pond | Treated wastewater from EPCO STF | • minimum vertical freeboard of 500 mm during normal operations |

# 2 Emissions

## 2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of section 2 of this licence.

## 2.2 Point source emissions to surface water

2.2.1 The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this licence.

**Table 2.2.1: Emission points to surface water**

| Emission point reference | Emission point reference on Map of emission points | Description | Source including abatement |
|---|---|---|---|
| W1 | W1 – Ophthalmia Dam discharge point | Discharge to Ophthalmia Dam | Water abstracted from Orebody 29/30/35 |
| | | Contingency discharge of RO reject water for a period of up to eight (8) weeks per annual period | Reject water from Newman Water Treatment Plant and Yarmina Power Station |
| W2 | W2 – Whaleback Creek discharge point | Emergency discharge to Whaleback Creek in the event that reuse and storage of water have been exhausted | Stormwater from West End of Whaleback Pit |

2.2.2 The Licensee shall not cause or allow point source emissions to surface water greater than the limits listed in Table 2.2.2.

**Table 2.2.2: Point source emission limits to surface water**

| Emission point reference | Parameter | Limit (including units) | Averaging period |
|---|---|---|---|
| W1 | Volume of mine dewater discharged from Orebody 29/30/35 | 8 GL per annum | Continuous |
| | Volume of RO reject water discharged to Ophthalmia Dam | Average of 6ML/day for up to 8 weeks per annum | Continuous |
| W1 – W2 | Total Recoverable Hydrocarbons (TRH) | 15 mg/L | Spot sample |

## 2.3 Emissions to land

2.3.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.3.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this licence.

**Table 2.3.1: Emissions to land**

| Emission point reference | Emission point reference on Map of emission points | Description | Source including abatement |
|---|---|---|---|
| L1 | EPCO Sewage Discharge Ponds | Discharge from EPCO STF to unlined pond | Treated wastewater from EPCO STF |

| | | | |
|---|---|---|---|
| L2 | L2 | Contingency discharge from Tank XD57 in the event that temporary storage and reuse and tank storage has been exhausted | Excess water for processing and dust suppression |
| L3 | Hub Turkeys Nest discharge | Contingency discharge from Hub Turkeys Nest in the event that temporary storage and reuse, and Turkeys Nest storage has been exhausted | Excess water for processing and dust suppression |

2.3.2 The Licensee shall not cause or allow emissions to land greater than the limits listed in Table 2.3.2.

**Table 2.3.2: Emission limits to land**

| Emission point reference | Parameter | Limit (including units) | Averaging period |
|---|---|---|---|
| L2 and L3 | Total Dissolved Solids | <2000 mg/L | Spot Sample |

# 3 Monitoring

## 3.1 General monitoring

3.1.1 The Licensee shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1, with the exception of holding times where these are not achievable;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(c) all surface water sampling is conducted in accordance with AS/NZS 5667.4 or AS/NZS 5667.6 as relevant;
(d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
(e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters to be measured unless indicated otherwise in the relevant table.

3.1.2 The Licensee shall ensure that:
(a) monthly monitoring is undertaken at least 15 days apart; and
(b) quarterly monitoring is undertaken at least 45 days apart.

3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.4 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

## 3.2 Monitoring of point source emissions to surface water

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

**Table 3.2.1: Monitoring of point source emissions to surface water**

| Emission point reference | Monitoring point reference and location | Parameter | Units | Averaging period | Frequency |
|---|---|---|---|---|---|
| W1 | Flow meter to discharge point | Volumetric flow rate (cumulative) | ML/day | Monthly | Continuous when discharging |
| | Discharge point | pH[1] | pH units | Spot sample | Quarterly when discharging |
| | | Total dissolved solids (TDS) | mg/L | | |
| | | Total suspended solids (TSS) | | | |
| | | Total recoverable hydrocarbons (TRH) | | | |
| | | Aluminium (Al) | | | |
| | | Arsenic (As) | | | |
| | | Boron (B) | | | |
| | | Calcium (Ca) | | | |
| | | Cadmium (Cd) | | | |
| | | Chloride (Cl) | | | |
| | | Carbonate (CO3) | | | |
| | | Chemical Oxygen Demand (COD) | | | |
| | | Chromium (Cr) | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | Copper (Cu) | | | |
| | | Iron (Fe) | | | |
| | | Bicarbonate (HCO3) | | | |
| | | Mercury (Hg) | | | |
| | | Potassium (K) | | | |
| | | Magnesium (Mg) | | | |
| | | Manganese (Mn) | | | |
| | | Molybdenum (Mo) | | | |
| | | Sodium (Na) | | | |
| | | Nickel (Ni) | | | |
| | | Nitrate (NO3) | | | |
| | | Lead (Pb) | | | |
| | | Selenium (Se) | | | |
| | | Silver (Ag) | | | |
| | | Sulfate (SO4) | | | |
| | | Zinc (Zn) | | | |
| W2 | Flow meter to discharge point | Volumetric flow rate (cumulative) | ML/day | Monthly | Continuous when discharging |
| | Discharge point | pH[1] | pH units | Spot sample | Quarterly when discharging |
| | | TDS, TRH, TSS | mg/L | | |

Note 1: In-field non-NATA accredited analysis permitted.

### 3.3 Monitoring of emissions to land

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

**Table 3.3.1: Monitoring of emissions to land**

| Emission point reference | Monitoring point location | Parameter | Units | Averaging Period | Frequency |
|---|---|---|---|---|---|
| L1 | Flow meter to evaporation pond | Volumetric flow rate (cumulative) | $m^3$ | Quarterly | Continuous |
| | Prior to discharge to infiltration evaporation pond | pH[1] | pH units | Spot sample | Quarterly |
| | | BOD, TSS, TN, TP | mg/L | | |
| | | *E.coli* | cfu/100ml | | |
| L2-L3 | Flow meter to discharge point | Volumetric flow rate (cumulative) | ML/day | Monthly | Each discharge event |
| | Discharge point | TDS[1] | mg/L | Spot sample | |

Note 1: In-field non-NATA accredited analysis permitted.

### 3.4 Monitoring of inputs and outputs

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

**Table 3.4.1: Monitoring of inputs and outputs**

| Input/Output | Parameter | Units | Averaging period | Frequency |
|---|---|---|---|---|
| Waste Inputs | Inert Waste Type 1<br>Inert Waste Type 2<br>Putrescible Waste<br>Clean Fill<br>Special Waste Type 1 | tonnes | N/A | Monthly records of total waste arriving at each landfill facility |

| | | | | |
|---|---|---|---|---|
| RO reject water from Yarnima Power Station | Volume | ML | Quarterly | Continuous |
| | TDS | mg/L | Spot sample | Quarterly |

### 3.5 Process monitoring

3.5.1 The Licensee shall undertake the monitoring in Table 3.5.1 according to the specifications in that table.

**Table 3.5.1: Process monitoring**

| Monitoring point reference and location on map | Process description | Parameter | Units | Limit | Averaging period | Frequency |
|---|---|---|---|---|---|---|
| P1 (Acid Mine Drainage (AMD) Evaporation Cells) | Brine from the Newman Water Treatment Plant to the clay lined AMD evaporation ponds | Volumetric flow rate (cumulative) | $m^3$/day | N/A | Monthly | Continuous |
| | | pH[1] | pH units | N/A | Spot sample | Quarterly |
| | | TDS | mg/L | N/A | | |
| P2 (OWWTP evaporation pond) | Treated wastewater from the Mobile Equipment Workshop oily water separator | TRH | mg/L | N/A | Spot sample | Quarterly |
| | Contingency discharge during high rainfall events | Volumetric flow rate | $m^3$/day | N/A | Monthly | Each discharge event |
| | | TRH | mg/L | 15 mg/L | Spot sample | |
| P3 (Discharge to Ophthalmia Dam) | Contingency discharge of RO reject water to Ophthalmia Dam | Volumetric flow rate (cumulative) | $m^3$/day | N/A | Spot sample | Weekly when discharging |
| | | pH[1] | pH units | N/A | | |
| | | TDS[1] | mg/L | 6,000 mg/L | | |

Note 1: In-field non-NATA accredited analysis permitted.

### 3.6 Ambient environmental quality monitoring

3.6.1 The Licensee shall undertake the monitoring in Tables 3.6.1, 3.6.2 and 3.6.3 according to the specifications in those tables and record and investigate results that do not meet any target specified.

**Table 3.6.1: Monitoring of ambient air quality**

| Monitoring point reference and location | Parameter | Target | Units[1] | Averaging period | Frequency | Method |
|---|---|---|---|---|---|---|
| Background 3 (WBAQRT011) North Mt Whaleback | Particulates as $PM_{10}$ | N/A | µg/$m^3$ | 24 hours | Continuous | AS 3580.9.11 |
| Background 2 | | N/A | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| (WBAQRT004) Corner B Tank | | | | | | |
| Newman 1 Town Centre (WBAQRT010) | | | | | | |
| Newman 3 (WBAQRT006) McLennan Drive | | <70 | | | | |

Note 1: All units are referenced to STP dry

3.6.2 The Licensee shall ensure that the siting of ambient air monitoring equipment is in accordance with AS 3580.1.1.

**Table 3.6.2: Monitoring of ambient surface water quality**

| Monitoring point reference and location | Parameter | Unit | Averaging period | Frequency |
|---|---|---|---|---|
| Whaleback Creek upstream (WBSW042)<br><br>Whaleback Creek downstream (WBSW043)<br><br>Power station Creek downstream (WBSW049) | pH[1] | - | Spot sample | Quarterly when flowing |
| | TDS, TSS, TRH, Ag, Al, As, B, Ca, Cd, Cl-, $CO_3$, COD, Cr, Cu, Fe, $HCO_3$, Hg, K, Mg, Mn, Mo, Na, Ni, $NO_3$, Pb, Se, $SO_4$, TN, TP, Zn | mg/L | | |

Note 1: In-field non-NATA accredited analysis permitted.

**Table 3.6.3: Monitoring of ambient groundwater quality**

| Monitoring point reference and location | Parameter | Unit | Averaging period | Frequency |
|---|---|---|---|---|
| WBGW050S<br>WBGW050D<br>WBGW010<br>WBGW011<br>WBGW022<br>WBGW023 | pH[1] | - | Spot sample | Quarterly |
| | Oxidation-reduction potential[1] | Volts (v) | | |
| | Total dissolved solids (TDS) | mg/L | | |
| | Aluminium (Al) | mg/L | | |
| | Antimony (Sb) | mg/L | | |
| | Arsenic (As) | mg/L | | |
| | Bicarbonate ($HCO_3^-$) | mg/L | | |
| | Cadmium (Cd) | mg/L | | |
| | Calcium (Ca) | mg/L | | |
| | Chloride ($Cl^-$) | mg/L | | |
| | Chromium (Cr) | mg/L | | |
| | Cobalt (Co) | mg/L | | |
| | Copper (Cu) | mg/L | | |
| | Iron (Fe) | mg/L | | |
| | Mercury (Hg) | mg/L | | |
| | Magnesium (Mg) | mg/L | | |
| | Manganese (Mn) | mg/L | | |
| | Nickel (Ni) | mg/L | | |
| | Lead (Pb) | mg/L | | |
| | Potassium (K) | mg/L | | |
| | Selenium (Se) | mg/L | | |
| | Sodium (Na) | mg/L | | |
| | Sulfate (SO4) | mg/L | | |
| | Thallium (Tl) | mg/L | | |
| | Zinc (Zn) | mg/L | | |

Note 1: In-field non-NATA accredited analysis permitted.

# 4 Improvements

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.

**Table 4.1.1: Improvement program**

| Improvement reference | Improvement | Date of completion |
|---|---|---|
| IR1 | The Licensee shall submit to the CEO a report that:<br>(a) Identifies the location of the groundwater monitoring bores used to monitor ambient groundwater at the AMD facility;<br>(b) Provides results from the previous ten (10) years of monitoring for the existing groundwater monitoring program at the AMD facility, including an analysis of results to identify trends in water quality;<br>(c) Includes a summary of the fate-dispersion modelling and independent risk assessment of the existing AMD facility; and<br>(d) Contains as appendices copies of the relevant consultant reports. | 31 December 2016 |

# 5 Information

## 5.1 Records

5.1.1 All information and records required by the Licence shall:
(a) be legible;
(b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
(c) for the following records, be retained until the expiry of the Licence:
(i) off-site environmental effects;
(ii) matters which affect the condition of the land or waters; and
(iii) records on (i) and (ii) from previous licences.

5.1.2 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

5.1.3 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

## 5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 October each year. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

**Table 5.2.1: Annual Environmental Report**

| Condition or table (if relevant) | Parameter | Format or form[1] |
|---|---|---|
| - | Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken | None specified |

| | | |
|---|---|---|
| - | Details of all dust control initiatives | None specified |
| - | Target and Limit exceedances | None specified |
| Table 3.2.1 (W1) | Surface water monitoring results | None specified |
| Table 3.2.1 (W2) | W2 emergency discharge to Whaleback Creek for each discharge event:<br>• monitoring results;<br>• date and duration of the discharge; and<br>• reason for discharge. | None specified |
| Table 3.3.1 | L1 - Volume, pH, BOD, TSS, TN, TP, *E.coli,* TRH and a comparison of monitoring results against the "Australian Guidelines for Sewerage Systems – Effluent Management", Australian and New Zealand Environment and Conservation Council, 1997. | None specified |
| Table 3.3.1 | L2 and L3 contingency discharge for each discharge event:<br>• monitoring results;<br>• date and duration of the discharge; and<br>• reason for discharge. | None specified |
| Table 3.4.1 | Input monitoring results | None specified |
| Table 3.5.1 | P1 and P2 - Process monitoring results | None specified |
| | P4 for discharge event:<br>• monitoring results; and<br>• date and duration of the discharge. | |
| Table 3.6.1 | $PM_{10}$ monitoring results | None specified |
| Table 3.6.2 | Ambient surface water monitoring results and a comparison of results against established trigger values. Details of investigations conducted, including outcomes, environmental impacts and remedial actions, in relation to trigger exceedances and a discussion of any trends identified | None specified |
| Table 3.6.3 | Ambient groundwater monitoring results | None specified |
| 5.1.2 | Compliance | Annual Audit Compliance Report |
| 5.1.3 | Complaints summary | None specified |

Note 1: Forms are in Schedule 2

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.

### 5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

**Table 5.3.1: Notification requirements**

| Condition or table (if relevant) | Parameter | Notification requirement[1] | Format or form[2] |
|---|---|---|---|
| - | Breach of any limit specified in the Licence | Part A: As soon as practicable but no later than 5pm of the next usual working day.<br><br>Part B: As soon as practicable | N1 |
| Table 3.6.1 | Target exceedance | Within 21 calendar days | ET1 |

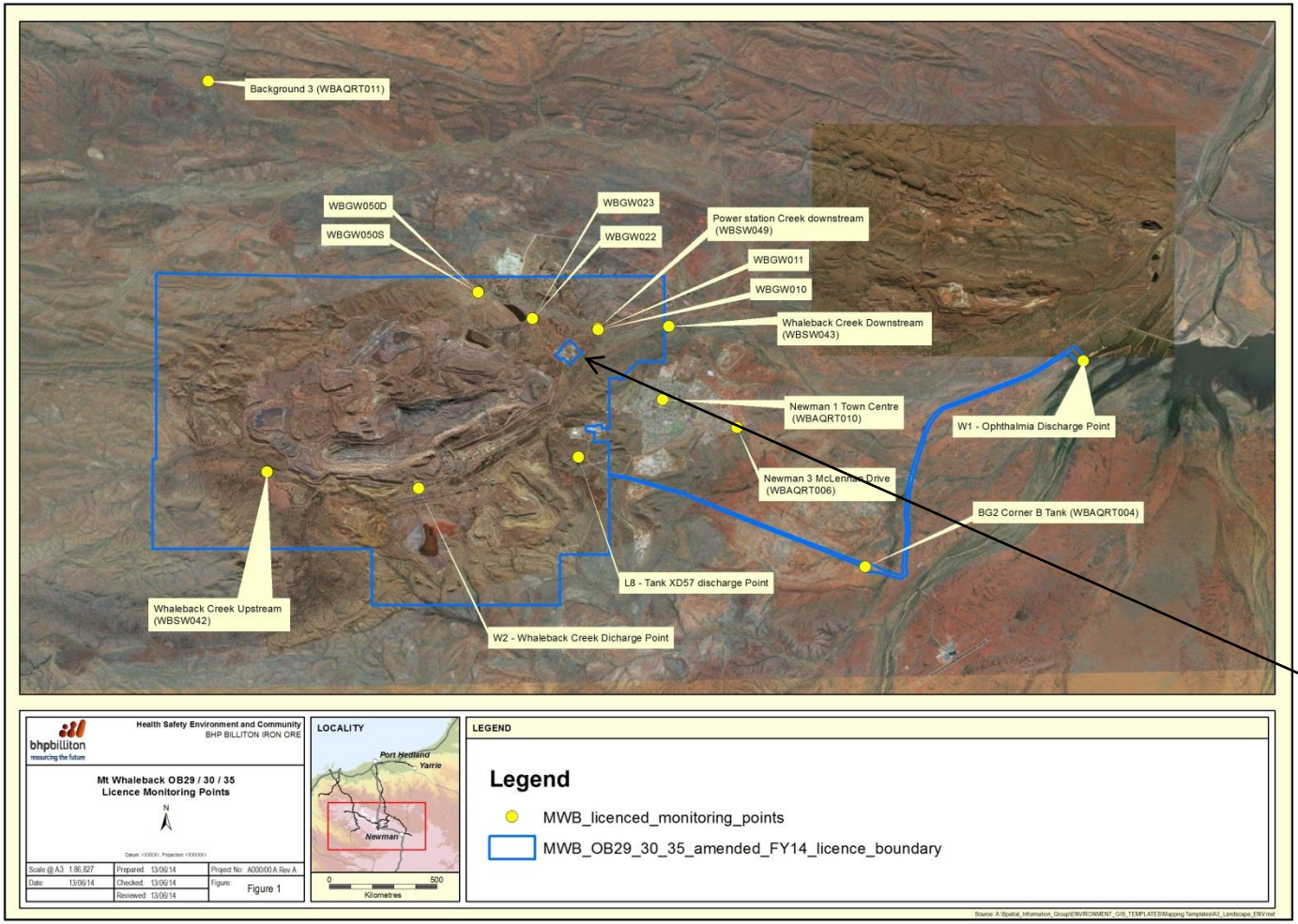
Note 1: Notification requirements in the licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2

# Schedule 1: Maps

**Premises map**

The Premises boundary is depicted in blue and the location of the emission points defined in Table 2.2.1 and 2.3.1 and monitoring points defined in Tables 3.2.1, 3.6.1, 3.6.2 and 3.6.3 are shown in the map below.

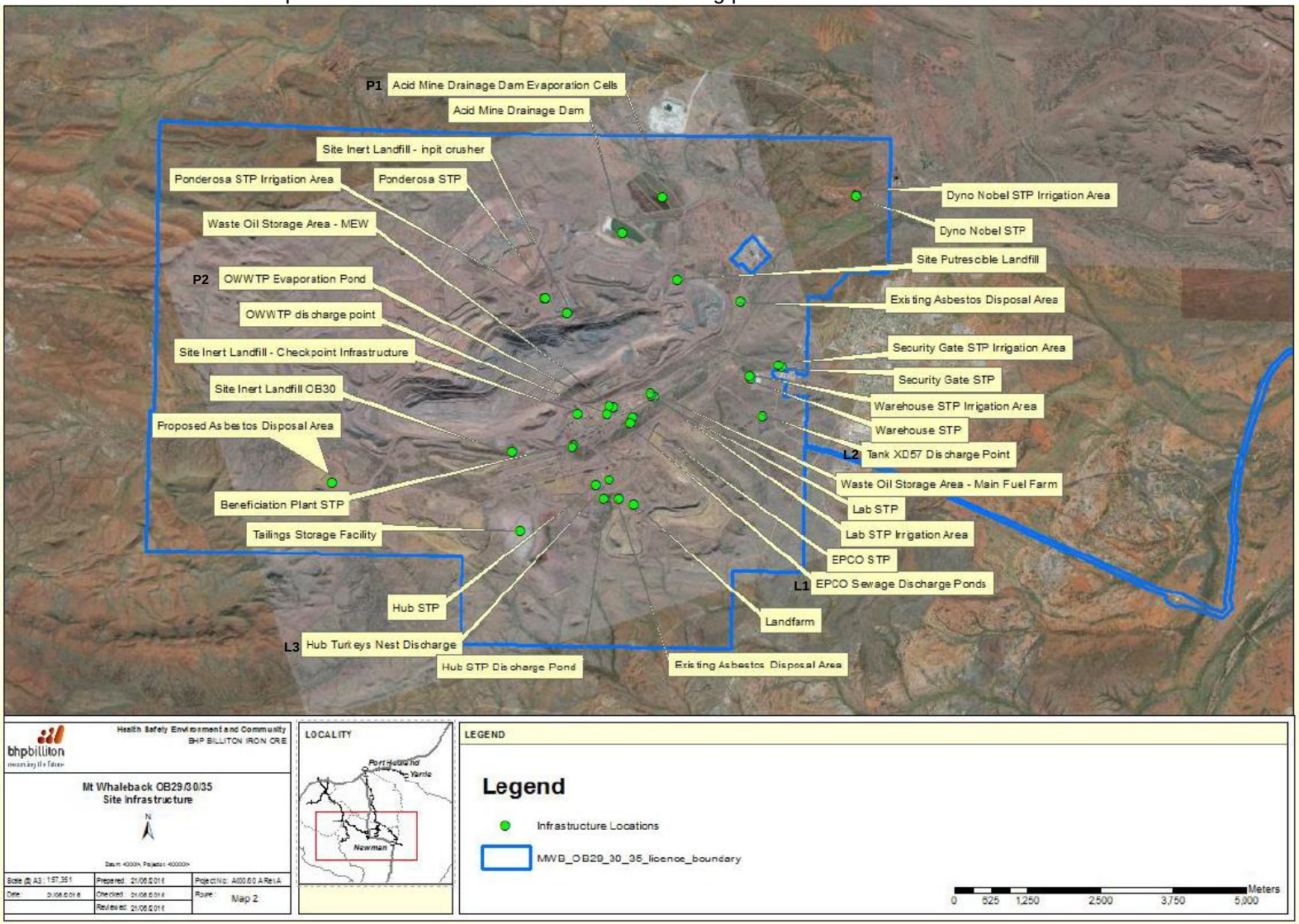



Area excluded from premises boundary

| GPS Location ID Waypoint (GDA94 MGA50) | Easting | Northing |
|---|---|---|
| A | 777446 | 7415805 |
| B | 777114 | 7415493 |
| C | 776994 | 7415638 |
| D | 777006 | 7415647 |
| E | 776976 | 7415683 |
| F | 776957 | 7415669 |
| G | 776944 | 7415683 |
| H | 776891 | 7415640 |
| I | 776779 | 7415779 |
| J | 776945 | 7415921 |
| K | 776921 | 7415956 |
| L | 776968 | 7415995 |
| M | 776954 | 7416014 |
| N | 777140 | 7416161 |

**Map of emission points**

The locations of the emission points defined in Tables 2.3.1 and monitoring points defined in Tables 3.3.1 and 3.5.1 are shown below.



# Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

---

## ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

## SECTION A

**LICENCE DETAILS**

| | |
|---|---|
| Licence Number: | Licence File Number: |
| Company Name:<br><br>Trading as: | ABN: |
| Reporting period:<br><br>_____ to _____ | |

**STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS**

1. Were all conditions of the licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

# SECTION B

## DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each licence condition that was not complied with.

| a) Licence condition not complied with: | |
|---|---|
| | |
| b) Date(s) when the non compliance occurred, if applicable: | |
| | |
| c) Was this non compliance reported to DER?: | |
| ☐ Yes ☐ Reported to DER verbally<br>Date _____<br>☐ Reported to DER in writing<br>Date _____ | ☐ No |
| d) Has DER taken, or finalised any action in relation to the non compliance?: | |
| | |
| e) Summary of particulars of the non compliance, and what was the environmental impact: | |
| | |
| f) If relevant, the precise location where the non compliance occurred (attach map or diagram): | |
| | |
| g) Cause of non compliance: | |
| | |
| h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance: | |
| | |
| i) Action taken or that will be taken to prevent recurrence of the non compliance: | |
| | |

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

# SECTION C

## SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) must only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

| If the licence holder is | | The Annual Audit Compliance Report must be signed and certified: |
|---|---|---|
| An individual | □ | by the individual licence holder, or |
| | □ | by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf. |
| A firm or other unincorporated company | □ | by the principal executive officer of the licensee; or |
| | □ | by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation. |
| A corporation | □ | by affixing the common seal of the licensee in accordance with the Corporations Act 2001; or |
| | □ | by two directors of the licensee; or |
| | □ | by a director and a company secretary of the licensee, or |
| | □ | if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or |
| | □ | by the principal executive officer of the licensee; or |
| | □ | by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation. |
| A public authority (other than a local government) | □ | by the principal executive officer of the licensee; or |
| | □ | by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation. |
| a local government | □ | by the chief executive officer of the licensee; or |
| | □ | by affixing the seal of the local government. |

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

Licence: L4503/1975/14 Licensee: BHP Billiton Iron Ore Pty Ltd
Form: N1 Date of breach:

**Notification of detection of the breach of a limit**

These pages outline the information that the operator must provide.
Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

## Part A

| | |
|---|---|
| Licence Number | |
| Name of operator | |
| Location of Premises | |
| Time and date of the detection | |

| **Notification requirements for the breach of a limit** | |
|---|---|
| Emission point reference/ source | |
| Parameter(s) | |
| Limit | |
| Measured value | |
| Date and time of monitoring | |
| Measures taken, or intended to be taken, to stop the emission | |

## Part B

| | |
|---|---|
| Any more accurate information on the matters for notification under Part A. | |
| Measures taken, or intended to be taken, to prevent a recurrence of the incident. | |
| Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission. | |
| The dates of any previous N1 notifications for the Premises in the preceding 24 months. | |

| | |
|---|---|
| Name | |
| Post | |
| Signature on behalf of BHP Billiton Iron Ore Pty Ltd | |
| Date | |

Licence: L4503/1975/14
Form: ET1
Name: Target exceedances

Licensee: BHP Billiton Iron Ore Pty Ltd
Period:

| **Form ET1: Target exceedances** |
| --- |
| Please provide an analysis of the target exceedance, including but not limited to:<br>(a) the emission point<br>(b) the root cause analysis for the exceedances;<br>(c) any common or contributory factors;<br>(d) a description of remedial measures taken or planned to be taken, including those taken to prevent recurrence of the exceedances;<br>(e) complaints received that may have been caused by this exceedance; and<br>(f) for those exceedances that may have caused complaints, meteorological details: temperature, wind speed and wind direction, humidity. |
| |

Signed on behalf of BHP Billiton Iron Ore Pty Ltd: …….. Date: …….

Government of Western Australia
Department of Environment Regulation

# Partial Decision Document

## *Environmental Protection Act 1986,* Part V

## Proponent: BHP Billiton Iron Ore Pty Ltd

## Licence: L4503/1975/14

| | |
|---|---|
| **Registered office:** | Level 1, City Square Brookfield Place<br>125 -137 St Georges Terrace<br>PERTH WA 6000 |
| **ACN:** | 008 700 981 |
| **Premises address:** | Mt Whaleback/Orebody 29/30/35<br>Tenements E52/2009-I, ML244SA, G52/19-G52/274, G52/276, G52/277, G52/279, K858923 and N088235<br>NEWMAN WA 6753 |
| **Issue date:** | Thursday, 7 November 2013 |
| **Commencement date:** | Sunday, 17 November 2013 |
| **Expiry date:** | Tuesday, 16 November 2032 |

**Decision**

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

| | |
|---|---|
| Decision Document prepared by: | Haley Brunel<br>Licensing Officer |
| Decision Document authorised by: | Alana Kidd<br>Manager Licensing (Resource Industries) |

# Contents



# 1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

# 2 Administrative summary

| **Administrative details** | | |
|---|---|---|
| Application type | Works Approval ☐<br>New Licence ☐<br>Licence amendment ☒<br>Works Approval amendment ☐ | |
| Activities that cause the premises to become prescribed premises | **Category number(s)** | **Assessed design capacity** |
| | 5 | 80 million tonnes per annual period |
| | 6 | 80 million tonnes per annual period |
| | 54 | 183.2 cubic metres per day |
| | 61 | 5 100 tonnes per annual period |
| | 64 | 6 000 tonnes per annual period |
| | 73 | 11,749 cubic metres |
| | 85B | 4.38 gigalitres per annual period |
| Application verified<br>Application fee paid | Date: N/A<br>Date: N/A | |
| Works Approval has been complied with<br>Compliance Certificate received | Yes☐ No☐ N/A☒<br>Yes☐ No☐ N/A☒ | |
| Commercial-in-confidence claim | Yes☐ No☒ | |

| | | |
|---|---|---|
| Commercial-in-confidence claim outcome | N/A | |
| Is the proposal a Major Resource Project? | Yes☒ No☐ | |
| Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*? | Yes☒ No☐ | Referral decision No: 1982<br>Managed under Part V ☐<br>Assessed under Part IV ☐ |
| Is the proposal subject to Ministerial Conditions? | Yes☒ No☐ | Ministerial statement No: 963<br>EPA Report No: 1501 |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)? | Yes☐ No☒<br>Department of Water consulted Yes ☐ No ☒ | |
| Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒<br>If Yes include details of which EPP(s) here. | | |
| Is the Premises subject to any EPP requirements? Yes☐ No☒<br>If Yes, include details here, eg Site is subject to $SO_2$ requirements of Kwinana EPP. | | |

# 3 Executive summary of proposal and assessment

BHP Billiton Iron Ore Pty Ltd (BHPBIO) operates the Mt Whaleback Orebody 29/30/35 Iron Ore Mine. The mine is located on tenements E52/2009, ML244SA and G52/19-G52/277 and is approved under the *Iron Ore (Mount Newman) Agreement Act 1964.*

The mine is located approximately five kilometres (km) west of the Newman township and commenced operation in 1969. Ore from the Mt Whaleback deposit is combined with the product from smaller adjacent satellite mines to produce the Mt Newman Joint Venture blend. The satellite orebodies (OB) which currently supplement production at Mt Whaleback include OB24/25, OB29, OB30 and OB35. Iron Ore from the site is transported approximately 426km by rail to Port Hedland Operations at Nelson Point for export.

Mt Whaleback operates under Licence L4503/1975/14 which BHPBIO has recently applied to amend. BHPBIO has requested that the premises address be updated and that a new asbestos disposal location be included.

DER's assessment and decision making with respect to the proposed asbestos disposal is detailed in Section 4 of this document.

# 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

| DECISION TABLE | | | |
|---|---|---|---|
| **Works Approval / Licence section** | **Condition number** | **Justification (including risk description & decision methodology where relevant)** | **Reference documents** |
| **General conditions** | Premises address and Schedule 1 | The premises address has been updated to include the additional mining tenements as advised by the Licensee.<br><br>The maps in Schedule 1 have been updated to include the additional asbestos disposal location. | Guidance Statement *Setting conditions* (DER, October 2015)<br><br>*Administrative changes implemented within DER*, www.der.wa.gov.au. |
| **Premises operation** | Conditions 1.2.1, 1.2.3, 1.2.5 | Emission description<br>The Licensee has indicated that a new asbestos disposal location is required for the disposal of asbestos-containing material (ACM), uncovered during recent excavations as part of the routine mining operations at Orebody 35. The material (pipes) has weathered and is mixed with approximately 2,000 cubic metres of excavated material.<br><br>To minimise the risk of transportation of the ACM across the site to the existing designated asbestos disposal area, it is proposed to encapsulate the material into the overburden storage area at Orebody 35. The overburden storage area is currently being developed and the ACM will be buried under approximately 30 metres of mine waste. Once the ACM has been buried it will not pose any risk to human health or the environment, and the area will not remain an active asbestos disposal area. The location of the disposal area will be noted on the site mine planning layer for closure purposes. | Application supporting documentation<br><br>General provisions of the *Environmental Protection Act 1986*<br><br>*Environmental Protection Regulations 1987*<br><br>*Environmental Protection (Controlled Waste) Regulations 2004*<br><br>Code of Practice 'How to Manage and Control |

| DECISION TABLE | | | |
|---|---|---|---|
| **Works Approval / Licence section** | **Condition number** | **Justification (including risk description & decision methodology where relevant)** | **Reference documents** |
| | | *Emission:* Release of fibrous materials during storage, transport and disposal of ACM into the waste rock dump.<br><br>*Impact:* Exposure to airborne asbestos fibres poses a risk to health if inhaled. Fibres that enter the lungs may lead to asbestos-related diseases such as pleural disease, asbestosis, lung cancer and mesothelioma. Workers at Mt Whaleback are the most likely to be exposed as public access to the site is restricted.<br><br>*Controls:* Material is currently segregated from other waste rock and access is restricted.<br><br>The loader and truck used to move the ACM are fitted with special filters and the cabs are fully enclosed. No personnel are on the ground outside of the machinery cab when the material is loaded and transported to its current location. The loader and truck used to move the ACM is washed down after handling the material. Access to the material is now restricted and there is no further reason to handle the material.<br><br>ACM will be encapsulated within the waste rock dump which will neutralise the risk of airborne fibres accessing the environment. It is unlikely that the site will be disturbed as it will not be used as an active asbestos disposal area following disposal of the ACM.<br><br>A site asbestos register which records the location and amount of asbestos disposed at each location is maintained.<br><br><u>Risk Assessment:</u><br>*Consequence:* Major<br>*Likelihood:* Rare<br>*Risk rating:* Moderate | Asbestos in the Workplace (Safe Work Australia, February 2016) |

| DECISION TABLE | | | |
|---|---|---|---|
| **Works Approval / Licence section** | **Condition number** | **Justification (including risk description & decision methodology where relevant)** | **Reference documents** |
| | | Regulatory Controls:<br>Condition 1.2.3 specifies that asbestos waste shall only be disposed of into designated asbestos disposal locations shown in Schedule 1, not deposited within 2m of the final tipping surface of the landfill and restricts works that could lead to a release of asbestos fibres.<br><br>Condition 1.2.5 specifies cover requirements relating to asbestos disposal locations.<br><br>The premises map in Schedule 1 has been updated to include the additional asbestos disposal location. No further regulatory controls are required to be applied to the Licence.<br><br>It is also noted that Safe Work Australia's Code of *Practice 'How to Manage and Control Asbestos in the Workplace'* (February 2016), approved under section 274 of the *Work Health and Safety Act* provides practical guidance on how to manage risks associated with asbestos and ACM at the workplace and thereby minimising the incidence of asbestos-related diseases.<br><br>Residual Risk:<br>*Consequence:* Major<br>*Likelihood:* Rare<br>*Risk rating:* Moderate | |
| **Improvements** | Condition 4.1.1 | Condition 4.1.1 has been updated to specify the completion date of improvement IR1. Improvement IR2 has been removed as the Licensee has satisfied the requirements of this condition. | N/A |

# 5 Advertisement and consultation table

| Date | Event | Comments received/Notes | How comments were taken into consideration |
|---|---|---|---|
| 18/08/2016 | 21 day consultation period correspondence | Waiver from received 25 August 2016. No comments on proposed changes. | N/A |

# 6 Risk Assessment

*Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management*

## Table 1: Emissions Risk Matrix

| Likelihood | Consequence | | | | |
|---|---|---|---|---|---|
| | Insignificant | Minor | Moderate | Major | Severe |
| Almost Certain | Moderate | High | High | Extreme | Extreme |
| Likely | Moderate | Moderate | High | High | Extreme |
| Possible | Low | Moderate | Moderate | High | Extreme |
| Unlikely | Low | Moderate | Moderate | Moderate | High |
| Rare | Low | Low | Moderate | Moderate | High |