



Licence

Environmental Protection Act 1986, Part V

Licensee: BHP Billiton Iron Ore Pty Ltd

Licence: L6942/1997/13

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

ACN: 008 700 981

Premises address: Eastern Ridge Iron Ore Mine
Mining Tenement ML244SA within coordinates MGA Zone 50:
E785173 N7418988; E785185 N7419480; E785188 N7419479;
E785489 N7420006; E786900 N7419610; E786868 N7419375;
E789754 N7419124; E789724 N7418892; E789733 N7418894;
E789953 N7418948; E790319 N7419038; E790690 N7419056;
E790724 N7419078; E791559 N7419208; E791546 N7420479;
E793041 N7421261; E793051 N7421266; E793107 N7421254;
E793368 N7421197; E792862 N7419712; E792800 N7419531;
E792795 N7419525; E792332 N7419001; E792222 N7418670;
E792115 N7417719; E791965 N7417430; E791913 N7417331;
E791683 N7416888; E791808 N7415908; E790128 N7415851;
E789478 N7415952; E789178 N7415998; E789046 N7416019;
E788635 N7415958; E787550 N7415798; E786796 N7415687;
E786535 N7415652; E785056 N7415452; E784531 N7415466;
E784145 N7415549; E783054 N7416157; E782553 N7416446;
E782529 N7416460; E782806 N7418247; E782833 N7418421;
E785173 N7418988
NEWMAN WA 6753
As depicted in Schedule 1

Issue date: Thursday, 12 November 2015

Commencement date: Tuesday, 17 November 2015

Expiry date: Sunday, 16 November 2025



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	31,000,000 tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	13.9 gigalitres per annual period
63	Class 1 inert landfill site	500 tonnes or more per year	10,000 tonnes per annual period
85	Sewage facility	More than 20 but less than 100 cubic metres per day	52 cubic metres per day

Conditions

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

Date signed: 12 November 2015

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Alana Kidd

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



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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 Eastern Ridge Iron Ore Mine (the Project) located approximately 8 kilometres (km) northeast of Newman in the Pilbara region of Western Australia. The minesite is located on the Ophthalmia Range in the vicinity of the Fortescue River and is approximately 30 km to the southwest of the Ethel Creek pastoral station homestead. The Project is comprised of Orebodies 23, 24 and 25.

Overburden and ore is selectively mined at the Project using conventional open-pit mining methods at a mining rate of up to 31 million tonnes per annum (mtpa). Following drilling and blasting, the ore is loaded by hydraulic excavators and/or front end loaders into dump haul trucks for transport to the primary crushing areas or to blending stockpiles for later use. The crushed and screened ore is placed by conveyor on stockpiles located to the south of the Orebody 25 (OB25) run of mine pad and wheeled front end loaders are used to load the ore directly onto the rail wagons or into a hopper that feeds a train load-out system.

Trains are partially loaded with ore from the Project and then filled at the Newman Hub with blended ore from Mt Whaleback and other satellite mines near Newman. Following the in-train blending of ore, the train transports the ore to Port Hedland along the existing rail line.

Mine dewatering is undertaken at a rate of approximately 38 megalitres per day (ML/day) and is discharged to the environment via four discharge points. There are two contingency discharge points included on the Licence to allow for the discharge of in-pit sump water and discharge during wet weather events and equipment malfunctions.

BHPBIO has approval to operate a Category 63 Inert Landfill at the Project with a capacity of 10,000 tonnes per annum. Under this category, used tyres and conveyor belts are disposed of within overburden storage areas.

BHPBIO operates two Biomax wastewater treatment plants (WWTP) at the Project. Treated wastewater from the 30 m³ per day capacity OB25 New Biomax is discharged to a 5,475 m² irrigation area. The OB24 Admin WWTP, with a design capacity of 22 m³/day, discharges treated wastewater to an evaporation pond for disposal.

This Licence is the successor to L6942/1997/12. At the time of this renewal, the following amendments, requested by the Licensee, were being assessed:

- add new inert landfill and tyre dump locations;
- remove the OB24 Admin Biomax WWTP;
- add the OB25 New Biomax WWTP;
- update a discharge point reference;
- amend the dewatering discharge limit values; and
- amend the conditions relating to the bioremediation of soils.

The Licence is also being converted to the latest template version 2.9 at the time of this renewal.



The licences and works approvals issued for the Premises since 8 November 2007 prior to issue of this Licence are:

Instrument log		
Instrument	Issued	Description
L6942/1997/11	08/11/2007	Licence amendment to allow processing of iron ore mined from OB23 and OB25 at the OB25 processing facilities
L6942/1997/12	11/11/2010	Licence reissue
W4982/2011/1	15/09/2011	Works approval issued for Orebody 24/25 Upgrade Project. Ore Processing Facility (category 5) and Sewage Treatment Facilities (Category 85).
W5282/2012/1	6/12/2012	Works approval issued for Orebody 24/25. Addition of Sewage Treatment Facility (Category 85) designed to treat 30 m ³ /day of effluent.
L6942/1997/12	14/11/2013	Licence amendment following competition of works approved through works approval W4982/2011/1.
L6942/1997/13	12/11/2015	Licence reissue and amendment, updated to licence template version 2.9.

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*;

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

'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 5667.6' 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*;

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

'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
PERTH WA 6850
Email: info@der.wa.gov.au;

'cfu/100mL' means colony forming units per 100 millilitres;

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

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

'HDPE' means high density polyethylene;

'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 L6942/1997/13 and issued under the Act;



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

'µS/cm' mean microSiemens per centimetre;

'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;

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

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

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

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

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

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

'WWTP' means wastewater treatment plant.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the 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.

1.1.5 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2 General conditions

1.2.1 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:

- (a) pollution;
- (b) unreasonable emission;
- (c) discharge of waste in circumstances likely to cause pollution; or
- (d) being contrary to any written law.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.3 The Licensee shall:

- (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
- (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.¹

Note1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.



1.3 Premises operation

1.3.1 The Licensee shall only accept waste on to the landfill and WWTPs if:

- it is of a type listed in Table 1.3.1;
- the quantity accepted is below any quantity limit listed in Table 1.3.1; and
- it meets any specification listed in Table 1.3.1 .

Table 1.3.1: Waste acceptance		
Waste type	Quantity limit	Specification ¹
Inert Waste Type 1	10,000 tonnes per annual period	None specified
Inert Waste Type 2		Tyres and plastic only
Clean Fill		None specified
Sewage	Orebody 24 WWTP – 22 m ³ /day	Accepted through sewer inflow(s) only
	Orebody 25 WWTP – 30 m ³ /day	

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*.

1.3.2 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1.3.1 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.

1.3.3 The Licensee shall ensure that wastes accepted onto the landfill, WWTP and bioremediation facility are only subjected to the process(es) set out in Table 1.3.2 and in accordance with any process limits described in that Table.

Table 1.3.2: Waste processing		
Waste type	Process(es)	Process limits ^{1,2}
Inert Waste Type 1	Receipt, handling and disposal of waste by landfilling	<u>All waste types</u> - disposal of waste by landfilling shall only take place within the landfill area shown on the Map in Schedule 1; - waste is disposed of in a defined trench or within an area enclosed by earthen bunds; - no waste shall be temporarily stored or landfilled within 35 metres from the boundary of the premises; - the tipping area is restricted to a maximum linear length of 30 metres and is no greater than 2 metres in height; and - the separation distance between the base of the landfill and the highest groundwater level shall not be less than 2m <u>Used Tyres and conveyor belts</u> Shall only be buried in overburden storage areas located within the prescribed premises boundary shown in Schedule 1. Tyres shall only be landfilled: - in batches separated from each other by at least 100 mm of soil and each consisting of not more than 40 m³ of tyres
Inert Waste Type 2		
Clean Fill		



		reduced to pieces; or in batches separated from each other by at least 100 mm of soil and each consisting of not more than 1,000 whole tyres
Sewage	Biological, physical and chemical treatment	None specified
Sewage sludge	Drying and storage	None specified
Hydrocarbon contaminated waste	Bioremediation	Contaminated soil is only to be remediated within the Bioremediation Facility shown on the Map in Schedule 1

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

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*.

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

- 1.3.5 The Licensee shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.3.3 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.3.3: Cover requirements¹

Waste Type	Material	Depth	Timescales
Inert Waste Type 1	No cover required		
Inert Waste Type 2	Type 1 Inert waste or soil	100mm	Monthly Plastic waste with the potential to become windblown shall be covered as soon as practicable after deposit

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

- 1.3.6 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.
- 1.3.7 The Licensee shall ensure that the waste material specified in Table 1.3.4 is only stored and/or treated within the vessels or compounds provided with the infrastructure detailed in Table 1.3.4.



Table 1.3.4: Containment infrastructure		
Vessel or compound	Material	Infrastructure requirements
Lined evaporation ponds	Treated water from oily water separators: - OWS 1352-OHP; - OWS 1353 HV/LV washpad; and - OWS 1354 MEM	- Concrete lined to achieve a permeability of 1×10^{-9} m/s or less - maintain vertical freeboard of 300 mm
OB24 treated sewage evaporation ponds	Treated wastewater from the OB24 Admin Biomax WWTP	- HDPE lined to achieve a permeability of 1×10^{-9} m/s or less - maintain vertical freeboard of 300 mm
Turkey's Nest	Potentially contaminated water from Orebody 24's washdown facilities	- HDPE lined to achieve a permeability of 1×10^{-9} m/s or less - maintain vertical freeboard of 300 mm
Orebody 24 and Orebody 25 bioremediation facilities	Hydrocarbon contaminated soils	- HDPE lined to achieve a permeability of 1×10^{-9} m/s or less - Any potentially contaminated runoff from the treatment cells is contained
Oily water storage tanks	Treated wastewater from the Orebody 25 oily waste water treatment system	Impermeable receptacle or storage chamber

1.3.8 The Licensee shall ensure the limits specified in Table 1.3.5 are not exceeded.

Table 1.3.5 Production or design capacity limits		
Category ¹	Category description ¹	Premises production or design capacity limit
5	Processing or beneficiation of metallic or non-metallic ore	31,000,000 tonnes of ore per annual period
6	Mine dewatering	13.9 gigalitres per annual period

Note 1: *Environmental Protection Regulations 1987*, Schedule 1.



2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit 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
D01	OB25DMDEW001	Discharge of excess mine dewatering water to infiltration basins at confluence of the Fortescue River and Homestead Creek, Ophthalmia Dam and Fortescue River	Water abstracted from Orebody 23 and 25 to facilitate mining below the water table
D02	OB25DMDEW002		
D03	OB25DMDEW003		
D04-3	OB25DMDEW004-3		
D04-4	OB25DMDEW004-4		
D06	OB25DMDEW006	Contingency discharge point to Homestead Creek	Discharge of water during wet weather events and equipment malfunctions

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 and location on Map of emission points	Emission point reference on Map of emission points	Description	Source including abatement
L1	OB25 New Biomax irrigation area	5,475 m ² irrigation area	Treated wastewater from the OB25 New Biomax WWTP to irrigation area



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;
- (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 5667.6; and
- (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being 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 record production or throughput data and any other process parameters relevant to any non-continuous monitoring undertaken.

3.1.4 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.

3.1.5 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 location	Parameter	Units	Frequency
D01 D02	Flow meters to discharge point	Volumetric flow rate (cumulative)	L/s and m ³ /day	Continuous
D03 D04-3 D04-4	Discharge points	Electrical conductivity	(µS/cm)	Quarterly when discharging
		pH ¹	-	
		Total Dissolved Solids	mg/L	
		Total Suspended Solids	mg/L	
		Total Recoverable Hydrocarbons	mg/L	
		Aluminium (Al)	mg/L	
		Arsenic (As)	mg/L	
		Calcium (Ca)	mg/L	
		Cadmium (Cd)	mg/L	
		Chlorine (Cl)	mg/L	
		Carbonate (CO ₃)	mg/L	
		Chemical Oxygen	mg/L	



		Demand (COD)		
		Chromium (Cr)	mg/L	
		Copper (Cu)	mg/L	
		Iron (Fe)	mg/L	
		Bicarbonate (HCO ₃)	mg/L	
		Mercury (Hg)	mg/L	
		Potassium (K)	mg/L	
		Magnesium (Mg)	mg/L	
		Manganese (Mn)	mg/L	
		Sodium (Na)	mg/L	
		Nickel (Ni)	mg/L	
		Nitrate (NO ₃)	mg/L	
		Lead (Pb)	mg/L	
		Sulfate (SO ₄)	mg/L	
		Total Nitrogen (TN)	mg/L	
		Total Phosphorus (TP)	mg/L	
		Zinc (Zn)	mg/L	
D06	Flow meter to discharge point	Volumetric flow rate (cumulative)	L/s and m ³ /day	Continuous when discharging
	Discharge point	Electrical conductivity	(μS/cm)	Weekly when discharging
		pH ¹	-	
		Total Dissolved Solids	mg/L	
		Total Suspended Solids	mg/L	
		Total Recoverable Hydrocarbons	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	Treated wastewater from final storage tank prior to discharge	Volumetric flow rate	L/s m ³ /day	Quarterly	Continuous
		Biochemical Oxygen Demand	mg/L	Spot sample	Quarterly
		Total Suspended Solids	mg/L		
		pH ¹	mg/L		
		Total Nitrogen	mg/L		
		Total Phosphorus	mg/L		
		<i>E.coli</i>	(org/100 mL)		

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 and Inert Waste Type 2	Tonnes	N/A	Monthly records of total waste arriving at the landfill facility

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	Process description	Parameter	Units	Limit	Averaging period	Frequency
P1 – Orebody 24 Turkey's Nest	Reuse of treated wastewater from oil water separators: OWS 1352-OHP; OWS 1353 HV/LV washpad; and OWS 1354 MEM	Total Recoverable Hydrocarbons	mg/L	15	Spot sample	Quarterly
Orebody 25 oily water storage tanks	Reuse of treated wastewater from the Orebody 25 OWS					

4 Improvements

4.1 Improvement program

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, with respect to the Orebody 25 WWTP, either: 1. Submit to the CEO an improvement plan that includes the following: a) monitoring data from the WWTP obtained during the commissioning period, including an assessment against the manufacturer's specifications; b) an assessment of potential environmental impacts associated with the discharge of treated wastewater from the WWTP, including remedial actions and implementation timeframes; and c) specific details of measures to be implemented, including timeframes, to improve the quality of treated wastewater to meet the manufacturer's specifications; or	17 January 2016



	2. Submit to the CEO a report which clearly demonstrates that the discharge of treated wastewater from the Orebody 25 WWTP will not result in any ongoing environmental impacts and includes the following: a) Details of the investigations conducted, including monitoring results, to determine that no environmental impacts have occurred; b) Details of ongoing monitoring to determine that no impacts are occurring from the continued discharge of treated wastewater; and c) Reporting requirements.	
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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) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.
- 5.1.2 The Licensee shall ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
 - (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.
- 5.1.3 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.
- 5.1.4 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 the 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 form¹
-	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
Table 1.3.1	Waste acceptance	None specified
Table 1.3.5	Production or design capacity data and limit exceedances	None specified
Table 3.2.1	Cumulative volume of dewatering water discharged	None specified
Table 3.2.1 (D01-D04-4)	Surface water emission monitoring results and a comparison of results against the trigger values specified in the document "Site specific trigger values – Eastern Ridge" (Golder Associates, 25 September 2013). Details of investigations conducted, including outcomes, environmental impacts and remedial actions, in relation to trigger exceedances.	None specified
Table 3.2.1 (D06)	Contingency discharge from D06: - Monitoring results; - Date and duration of the discharge; and - Reason for discharge	None specified
Table 3.3.1	Emissions to land monitoring results (WWTP) and comparison of results against the manufacturers specifications	None specified
Table 3.5.1	Process monitoring results	None specified
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	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:

- any relevant process, production or operational data recorded under Condition 3.1.3; and
- an assessment of the information contained within the report against previous monitoring results and Licence limits.

5.2.3 The Licensee shall submit the information in Table 5.2.3 to the CEO according to the specifications in that table.

Table 5.2.3: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2

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
Tables 1.3.1, 1.3.5, 2.3.1, 3.5.1	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. Part B: As soon as practicable	N1
3.1.5	Calibration report	As soon as practicable.	None specified

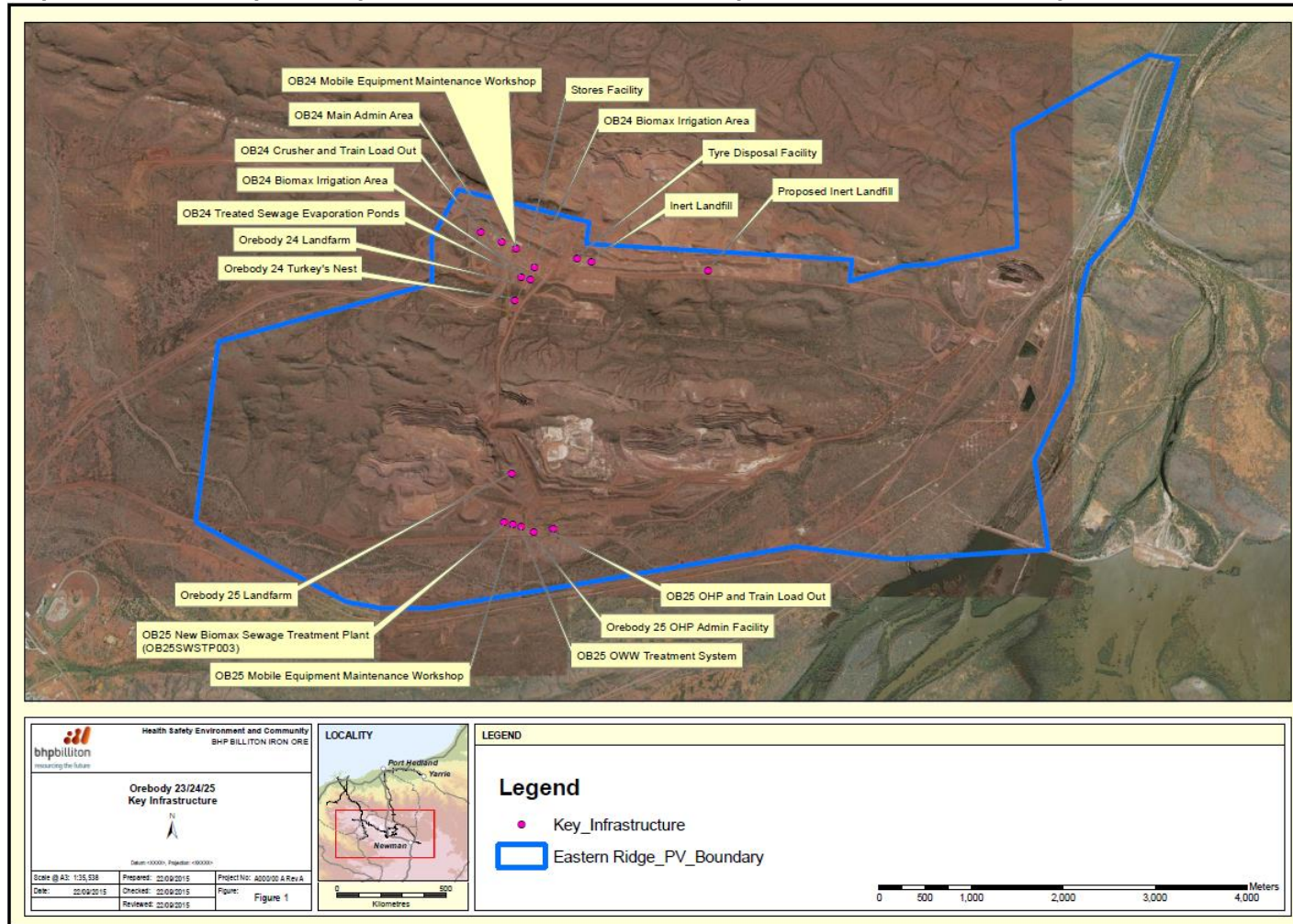
Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2



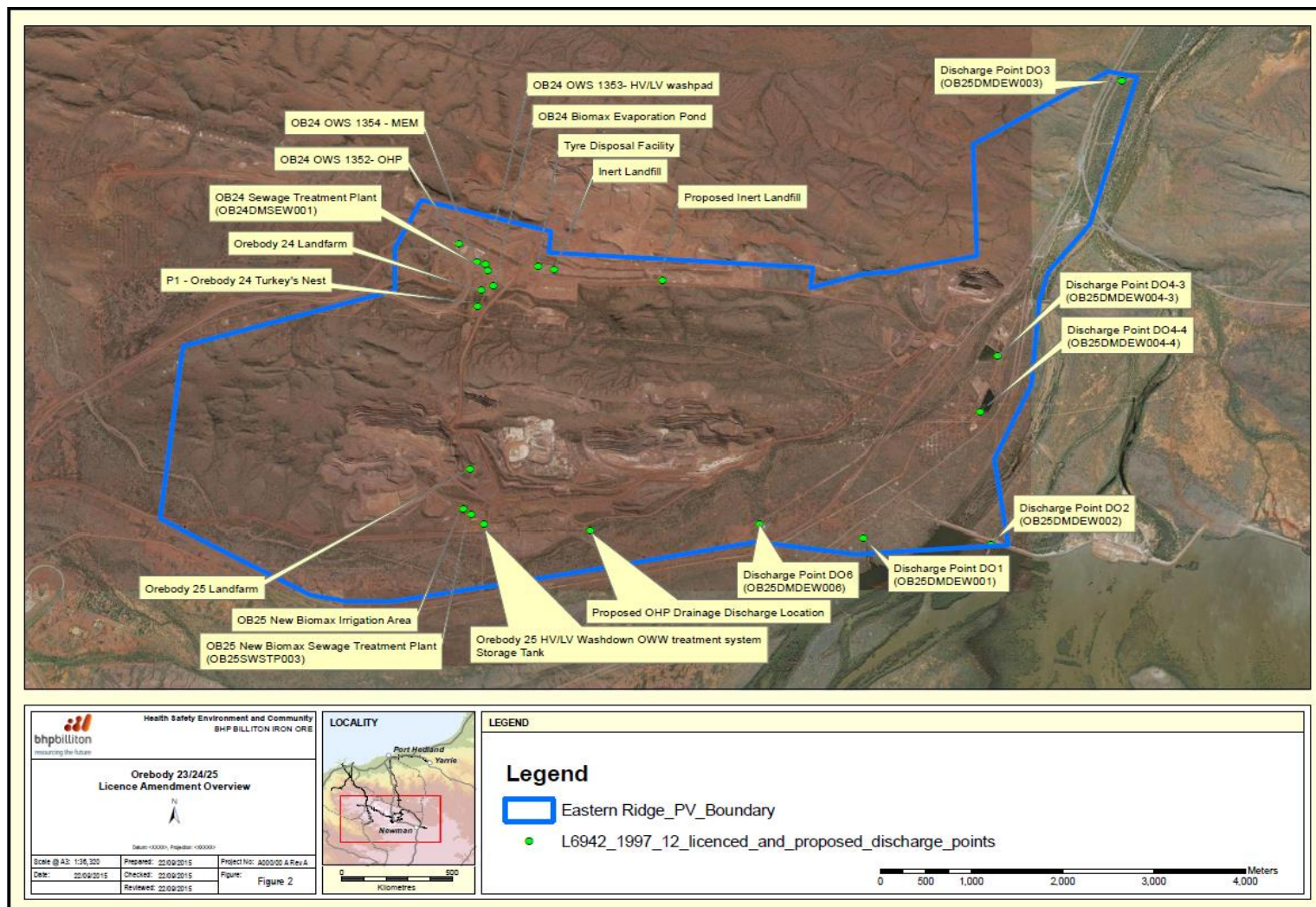
Schedule 1: Maps

Map 1 – Premises Map with key infrastructure. The blue line depicts the Premises boundary.





Map 2 – Emission and discharge points and monitoring locations





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: Trading as:	ABN:
Reporting period: _____ 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 Date _____ ☐ Reported to DER in writing 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 initialised 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 <i>Corporations Act 2001</i> ; 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: ____/____/____

SEAL (if signing under seal)

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: ____/____/____



Licence: L6952/1997/13
Form: N1

Licensee: BHP Billiton Iron Ore Pty Ltd
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	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: BHP Billiton Iron Ore Pty Ltd

Licence: L6942/1997/13

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

ACN: 008 700 981

Premises address: Eastern Ridge Iron Ore Mine
Mining Tenement ML244SA within coordinates MGA Zone 50:
E785173 N7418988; E785185 N7419480; E785188 N7419479; E785489 N7420006;
E786900 N7419610; E786868 N7419375; E789754 N7419124; E789724 N7418892;
E789733 N7418894; E789953 N7418948; E790319 N7419038; E790690 N7419056;
E790724 N7419078; E791559 N7419208; E791546 N7420479; E793041 N7421261;
E793051 N7421266; E793107 N7421254; E793368 N7421197; E792862 N7419712;
E792800 N7419531; E792795 N7419525; E792332 N7419001; E792222 N7418670;
E792115 N7417719; E791965 N7417430; E791913 N7417331; E791683 N7416888;
E791808 N7415908; E790128 N7415851; E789478 N7415952; E789178 N7415998;
E789046 N7416019; E788635 N7415958; E787550 N7415798; E786796 N7415687;
E786535 N7415652; E785056 N7415452; E784531 N7415466; E784145 N7415549;
E783054 N7416157; E782553 N7416446; E782529 N7416460; E782806 N7418247;
E782833 N7418421; E785173 N7418988
NEWMAN WA 6753

Issue date: Thursday, 12 November 2015

Commencement date: Tuesday, 17 November 2015

Expiry date: Sunday, 16 November 2025

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 & Michael Christensen
Licensing Officer

Decision Document authorised by: Alana Kidd
Manager Licensing – Resource Industries



Contents

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1 Purpose of this Document	2
2 Administrative summary	2
3 Executive summary of proposal and assessment	3
4 Decision table	5
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6 Risk Assessment	19
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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 ☐ New Licence ☒ Licence amendment ☐ Works Approval amendment ☐										
Activities that cause the premises to become prescribed premises	<table border="1"> <thead> <tr> <th>Category number(s)</th> <th>Assessed design capacity</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>31,000,000 tonnes per annual period</td> </tr> <tr> <td>6</td> <td>13.9 gigalitres per annual period</td> </tr> <tr> <td>63</td> <td>10,000 tonnes per annual period</td> </tr> <tr> <td>85</td> <td>52 cubic metres per day</td> </tr> </tbody> </table>	Category number(s)	Assessed design capacity	5	31,000,000 tonnes per annual period	6	13.9 gigalitres per annual period	63	10,000 tonnes per annual period	85	52 cubic metres per day
	Category number(s)	Assessed design capacity									
	5	31,000,000 tonnes per annual period									
	6	13.9 gigalitres per annual period									
	63	10,000 tonnes per annual period									
85	52 cubic metres per day										
Application verified	Date: 7 September 2015										
Application fee paid	Date: 28 September 2015										
Works Approval has been complied with	Yes ☐ No ☐ N/A ☒										
Compliance Certificate received	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 <i>Environmental Protection Act 1986</i> ?	Yes ☒ No ☐	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☒
Is the proposal subject to Ministerial Conditions?	Yes ☒ No ☐	Ministerial statement No: 478, 712 and 834
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes ☐ No ☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒ 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 Eastern Ridge Iron Ore Mine (the Project) located approximately 8 kilometres (km) northeast of Newman in the Pilbara region of Western Australia. The minesite is located on the Ophthalmia Range in the vicinity of the Fortescue River and is approximately 30 km to the southwest of the Ethel Creek pastoral station homestead. The Project is comprised of Orebodies 23, 24 and 25.

Overburden and ore is selectively mined at the Project using conventional open-pit mining methods at a mining rate of up to 31 million tonnes per annum (mtpa). Following drilling and blasting, the ore is loaded by hydraulic excavators and/or front end loaders into dump haul trucks for transport to the primary crushing areas or to blending stockpiles for later use. The crushed and screened ore is placed by conveyor on stockpiles located to the south of the Orebody 25 (OB25) run of mine pad and wheeled front end loaders are used to load the ore directly onto the rail wagons or into a hopper that feeds a train load-out system.

Mine dewatering is undertaken at a rate of approximately 13.9 gigalitres per annum and is discharged to the environment via four discharge points. There are two contingency discharge points included on the Licence to allow for the discharge of in-pit sump water and discharge during wet weather events and equipment malfunctions.

BHPBIO has approval to operate a Category 63 Inert Landfill at the Project with a capacity of 10,000 tonnes. Under this category, used tyres and conveyor belts are disposed of within overburden storage areas.

BHPBIO operates two Biomax wastewater treatment plants (WWTP) at the Project. Treated wastewater from the 30 m³ per day capacity OB25 New Biomax is discharged to a 5,475 m² irrigation area. The OB24 Admin WWTP, with a design capacity of 22 m³, discharges treated wastewater to evaporation ponds for disposal.

At the time of this renewal, the following amendments, requested by the Licensee, were also assessed:



- add new inert landfill and tyre dump locations;
- remove the OB24 Admin Biomax wastewater treatment plant;
- add the OB25 New Biomax wastewater treatment plant;
- removal of emission point D05;
- update a discharge point reference;
- amend the dewatering discharge limit values; and
- amend the conditions relating to the bioremediation of soils.

The Licence has also been converted to the latest template version 2.9.



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 W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.3	<u>Emission Description</u> <i>Emission:</i> Stormwater contaminated with hydrocarbons, chemicals and/or heavy metals from operational areas. <i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water. <i>Controls:</i> BHPBIO has implemented the following measures to minimise contamination of stormwater: - contaminated runoff from areas of likely hydrocarbon and/or solvent contamination is treated to achieve a hydrocarbon concentration of less than 15 mg/L prior to being discharged; - waste management structures, including but not limited to protective bunding, skimmers, silt traps, fuel and oil traps, drains and sealed collection sumps have been installed and maintained to recover spills and allow treatment to remove contaminants within impervious containment structures prior to discharge; - storage of waste materials in holding tanks; - stormwater runoff is directed away from landfill areas; - spills or leaks or chemicals including fuels, oils or other hydrocarbons are removed for appropriate disposal; - hazardous liquid chemicals and other substances are stored in properly bunded compounds to minimise the potential for land, surface water or groundwater contamination; - process water and wash down water is collected and re-used or transferred to the bioremediation facility for treatment; and - oily water separators treat potentially contaminated wastewater prior to discharge.	Application supporting documentation



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate <u>Regulatory Controls</u> Condition 1.2.2 has been added to the Licence to require the operator to appropriately respond to spills of environmentally hazardous materials. Condition 1.2.3 has been included in the Licence to ensure all practical measures are implemented to prevent stormwater run-off becoming contaminated by the activities on the Premises and to treat contaminated or potentially contaminated stormwater as necessary prior to being discharged. These conditions replace Conditions 4, 5, 6, 7, 9, 10, 11, on the previous version of the Licence. <u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low	
Premises operation	L1.3.1	<u>Emission Description</u> <i>Emission:</i> The following emissions could potentially gain access to the environment during operation of the premises: • landfill emissions; • wastewater from the OB24 Administration WWTP; • treated wastewater from oily water separators (OWS); and • leachate from the bioremediation facilities.	Application supporting documentation EPA Guidance Statement No. 17 – <i>Guidance Statement for Remediation</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts from the addition of nutrients, hydrocarbons/chemicals and heavy metals. <i>Controls:</i> The following controls are in place for each of the following infrastructure: Landfill Waste disposed of to the landfill is restricted to inert waste, minimising the potential for leachate from the landfill and subsequent environmental impacts. Wastewater Treatment Plants BHPBIO operates two WWTPs within the premises. Orebody 25 WWTP, which is discussed further in the emissions to land section, and the OB24 administration WWTP. The OB24 administration WWTP discharges to a HDPE lined evaporation pond, minimising the potential for nutrient rich wastewater to access the environment. OWS treated wastewater BHPBIO operates four Oily Waste Water (OWW) treatment systems on the premises. Three are located at Orebody 24 facility and one is located at Orebody 25 facility. The Orebody 25 OWW treatment system treats oily water generated from the Mobile Equipment Maintenance (MEM) workshop. Following treatment waste water is pumped to an impermeable holding tank. From the holding tank treated waste water is either reused for dust suppression or transferred to the Orebody 24 HV/LV OWW treatment system for additional treatment, if required. The three OWW treatment systems at Orebody 24 are referred to as: 1. OWS 1352 – OHP; 2. OWS 1353 – HV/LV washpad; and 3. OWS 1354 – MEM. These treatment systems discharge treated waste water to two HDPE lined evaporation ponds. Should the capacity of these lined ponds be exceeded the water is pumped to a	<i>Hierarchy for Contaminated Land</i> (EPA, 2000).



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		concrete lined Turkey's nest to supplement process water for dust suppression purposes. Bioremediation facilities Two bioremediation facilities, located at Orebody 24 and Orebody 25, are operated within the premises. These facilities are managed in accordance with the EPA Guidance Statement No. 17 – <i>Guidance Statement for Remediation Hierarchy for Contaminated Land</i> (EPA, 2000). <u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate <u>Regulatory Controls</u> Condition 1.3.1-1.3.6 have been applied to the Licence to specify the waste acceptance and waste processing requirements applicable to the landfill, WWTPs and bioremediation facilities operating within the premises. Condition 1.3.7 has been included in the Licence to specify the requirements for containment infrastructure on site which stores waste from the OWSs, washdown facilities, OB24 Administration WWTP and bioremediation facilities. <u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low	
Emissions general	L2.1.1	Descriptive limits will be set through conditions of the licence and therefore Condition 2.1.1, regarding recording and investigation of exceedances of limits has been included.	N/A
Point source emissions to	L2.2.1 and 3.2.1	DER's decision making and risk assessment is detailed through Appendix A for point source emissions to surface water.	Application supporting



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
surface water including monitoring			documentation BHP Billiton Iron Ore, Orebody 24/25 Upgrade Project, Environmental Management Plan, January 2010. Technical Memorandum, Site-Specific Trigger Values – Eastern Ridge, Golder Associates, 25 September 2013
Emissions to land including monitoring	L2.3.1, 2.3.2 and 3.3.1	<u>Emission Description</u> <i>Emission:</i> Effluent is treated through a Biomax wastewater treatment plant and irrigated to land. <i>Impact:</i> Effluent contains high levels of nutrients which can cause eutrophication of in waterbodies impacting ecosystem processes and function. A number of water bodies including the Fortescue River and Homestead Creek and located within close proximity to the WWTP. The irrigation of treated effluent can also encourage excess growth of weeds. <i>Controls:</i> The licensee has developed the following controls • Regular inspections of the WWTP and irrigation area • Regular maintenance to WWTP and irrigation infrastructure	Application supporting documentation



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		WWTP has an alarm which will be activated in the event of malfunction to the air compressor and discharge pump <u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate <u>Regulatory Controls</u> Condition 2.3.1 has been detailed on the licence identifying and allowing the discharge of treated effluent. Condition 3.5.1 has been added to the licence outlining the monitoring frequency and parameters. These conditions replace condition 21, 22, 23, 24 and 25, on the previous version of the Licence. Monitoring results provided in the commissioning report for the OB25 C30K Biomax system indicates that treated wastewater discharged from the facility regularly exceeds the effluent quality parameters assessed under Works Approval W5282/2012/1. An improvement condition has been included in the Licence, requiring the Licensee to report to DER within 2 months, advising of the actions to be implemented to improve the quality of treated wastewater discharged from the WWTP, including implementation timeframes and reporting requirements. The alternative is that the Licensee demonstrates that no environmental impact has or will occur as a result of the discharge of treated wastewater from the OB25 C30K Biomax system. <u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Fugitive emissions	N/A	<u>Emission Description</u> <i>Emissions:</i> Dust emissions are generated from the processing of ore through crushing and screening. Dust is also produced from vehicle transport and other ancillary infrastructure on-site. The mine site is situated approximately 7km east from the town of Newman and approximately 5km west of Ophathalmia Dam. <i>Impacts:</i> Decreased quality of local air shed from dust particulates. Smothering of vegetation. <i>Controls:</i> The licensee has developed a range of dust management controls including: • dampening haul roads, unsealed roads and construction areas with water trucks; • dust extraction via collectors; • transfer points enclosed and fitted with water sprays; • land disturbance and exposed soil restricted to a practicable minimum; • sprinklers / water sprays on the processing circuit (e.g. primary crusher bins, ore stockpiles); • ore conditioning; • dust suppression equipment is maintained in efficient operating condition in accordance with relevant regulations; • vehicle speeds on haul roads is restricted to minimise dust; • where practicable, blasting is timed to coincide with favourable wind and weather conditions; • routine maintenance and housekeeping practices are implemented to ensure waste materials do not accumulate and lead to the generation of unacceptable airborne dust; • informing all employees and contractors of the importance of minimising ambient dust levels; • a Near Infrared (NIR) Moisture Analyser is used to monitor the moisture content of material on the conveyor system. In the event that moisture content is outside the accepted ore moisture range, the water supply is adjusted to ensure adequate dust suppression;	BHP Billiton Iron Ore, Orebody 24/25 Upgrade Project, Environmental Management Plan, January 2010. BHP Billiton Iron Ore, OB23 Environmental Management Plan, November 2008.



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		• rehabilitation of disturbed areas; and • a dust monitoring programme. The dust management controls described above are outlined in the Orebody 23 Environmental Management Plan (November, 2008) and the Orebody 24/25 Upgrade Project Environmental Management Plan (January 2010), required under Ministerial Statements 478 and 712, respectively. Under the OB23 Environmental Management Plan the Licensee also committed to implementing a dust monitoring programme to quantify the significance of dust emissions and to determine the ambient dust conditions. A network of real-time monitoring stations surrounding Newman to monitor atmospheric PM₁₀ concentrations has been established. The real-time monitoring stations provide 10 minute data through to operations personnel. There are two solar powered BAM1020 dust monitoring PM₁₀ units at the Eastern Ridge operations. The background monitoring monitoring site is located approximately 5 km north west of the OB24 operations. The Eastern Ridge boundary monitoring location is situated approximately 1.2 km south west of the OB25 operations and 2.8 km north west of the Newman townsite. <u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate <u>Regulatory Controls</u> Fugitive dust emissions have been assessed as a moderate risk emission due to the site's proximity to the town of Newman and the potential for cumulative impacts associated with BHPBIO's Mt Whaleback Iron Ore Mine located to the west of Newman. At this stage, no conditions relating to the management of dust have been included on the Licence.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		The general provisions of the <i>Environmental Protection Act 1986</i>, with respect to the causing of pollution and environmental harm, will apply and the site will also be subject to regular inspections by DER officers. Under condition 4.1.4 the Licensee is required to implement a complaints managements system. Any complaints, including those related to dust, will need to be reported to DER via the Annual Environmental Report. Dust management meaures are also required under Ministerial Statements 478 and 712, through the implementation of the Environmental Management Plans. Any future applications to increase the category 5 production capacity will be subject to DER approval via an amendment to Licence L6942/1997/13. During this approval process an assessment of dust emissions and proposed management actions will be undertaken to determine if conditions relating to the management and/or monitoring of dust are required. <u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate	
Odour	N/A	There are no significant odour emissions expected to be generated from the premises and as such no conditions are in the licence.	N/A
Noise	N/A	The nearest sensitive receptor is located approximately 7km east from the premises and as such noise emissions are not considered to be an issue. There are no conditions in the licence. Compliance with the <i>Environmental Protection (Noise) Regulations 1997</i> is required.	BHP Billiton Iron Ore, Orebody 24/25 Upgrade Project, Environmental Management Plan, January 2010. <i>Environmental</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			<i>Protection (Noise) Regulations 1997</i>
Monitoring general	L3.1.1, 3.1.2, 3.1.3, 3.1.4	Standard monitoring conditions for the collection, handling and analysis of samples and calibration of monitoring equipment are detailed in the licence.	
Monitoring of inputs and outputs	L3.4.1	Monitoring of waste inputs to the landfill has been added to the licence through condition 3.6.1 requiring the licensee to monitor tonnes accepted to the landfill on a monthly basis.	
Process monitoring	L3.5.1	Treated waste water from the oily water separators is discharged to two HDPE lined evaporation ponds. The evaporation ponds overflow to a Turkey's Nest which is used to store water for dust suppression. Condition 3.5.1 has been added to the licence requiring the licensee to undertake process monitoring for TRH on a quarterly basis. A limit of 15 mg/L has also been specified.	Application supporting documentation
Ambient quality monitoring	N/A	There are no conditions for ambient environmental quality monitoring required for this licence.	N/A
Meteorological monitoring	N/A	There are no conditions for meteorological monitoring required for this licence.	N/A
Improvements	N/A	There are no improvement conditions required for this premises.	N/A
Information	L4	Standard conditions for the recording of information, reporting and notification to the DER has been added to the licence.	N/A
Licence Duration	N/A	In accordance with DER's Licence Duration Guidance Statement, finalised in November 2014, this Licence has been issued for a period of 10 years. This guidance statement requires a transition period for existing licences. During this transition period, licences are to be renewed for varying periods of up to 20 years, to ensure that in future a similar number of licences will expire (and require renewal) each year.	DER Guidance Statement, <i>Licence Duration</i> (November, 2014)



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
N/A	Application advertised in West Australian (or other relevant newspaper)	N/A	N/A
14/09/2015	Proponent sent a copy of draft instrument	Table 1.3.3 – Change the cover requirements from by the end of the working day in which the waste was deposited to monthly. Table 1.3.4 – Change the infrastructure requirements for the lined evaporation ponds from HDPE lined to concrete. Table 2.2.1 – Remove discharge point D05 as water discharged from this point is already monitored at D04-3 and D04-4. Table 2.2.2 – change the limits associated with the discharge of excess dewatering water to targets. Remove Selenium, Boron, Molybdenum and Silver from the monitoring requirements as these parameters are not on the existing Licence and there are no known possible sources.	Noted and changed. Considering the waste is inert, DER considers monthly covering to be adequate. Noted and specifications changed. Discharge point D05 has been removed from the Licence. DER understands that there has been no discharge from this location for at least the past two reporting periods. Further to this, monitoring conducted at discharge point D04-4 is representative of the water which may be discharged from D05. The limits have been removed from the Licence. The Licensee will, however, be required to compare the monitoring results to the site specific triggers and report any exceedances in the AER, including details of investigations conducted with respect to trigger exceedances and any remedial action implemented. Selenium, Boron, Molybdenum and Silver have been removed and will not require to



Date	Event	Comments received/Notes	How comments were taken into consideration
		Condition 2.3 – Include nutrient loading rates associated with the irrigation of treated wastewater. Table 2.3.2 – Change the limits associated with the discharge of treated wastewater from the WWTPs to targets. Table 3.2.1 - Remove Selenium, Boron, Molybdenum and Silver from the monitoring requirements as these parameters are not on the existing Licence and there are no known possible sources. Table 3.3.1 – Change the volumetric flow rate averaging period from monthly to quarterly. Table 3.5.1 – Change the limit for Total Recoverable Hydrocarbons to a target.	be sampled for. Change not implemented. DER is no longer applying limits for nutrient loading rates to Licences. The limits have been removed from the Licence and will not be applied as targets. The Licensee will be required to report treated wastewater monitoring results to DER via the AER, comparing results against the manufacturers specifications. DER has also included an improvement condition, requiring the Licensee to provide a plan which details how the Orebody 25 WWTP will be managed to improve the quality of treated wastewater being discharged for irrigation or to demonstrate that no environmental has or will occur as a result of the discharge. Change implemented. Change implemented. As flow rate is a continuous measure the data will still accurately reflect the volume discharged if collected quarterly as opposed to monthly. Change not implemented. DER considers that 15 mg/L is a reasonable limit for water reused for dust suppression.



Date	Event	Comments received/Notes	How comments were taken into consideration
		Table 4.2.1 – Include the requirement to only report the surface water monitoring results by exception only and provide results associated with exceedances of the site specific trigger levels.	Change not implemented. DER requires the whole data set to be provided to be able to identify trends over time.
29/10/2015	Proponent sent updated draft instrument	Condition 1.3.8 – The Licensee has requested that the production capacity for Category 5 be increased from 15,000,000 tonnes per annum to 31,000,000 tonnes per annum, to align with Ministerial Statements 712, 834 and 1018. The Licensee has advised that the increase in production has been achieved through improved supply chain efficiencies. Condition 2.2.1 – Minor updates to accurately describe the surface water emission points. Condition 3.2.1 – Change monitoring frequency for emissions to surface water from 'Quarterly' to 'Quarterly when discharging'. Taking a sample will not always be possible as emissions are not	Change has been implemented. Ministerial Statement 712 for the Orebody 25 extension does not define the 'processing rate', however, specifies a production rate of 8,000,000 tonnes per annum. Ministerial Statement 834 for the Orebody 24/25 Upgrade Project specifies an ore processing rate of 18,000,000 tonnes per annum and Ministerial Statement 1018, for Orebody 32, specifies a mining rate of 5,000,000 tonnes per annum. The existing Environmental Management Plans for Eastern Ridge include provisions for the management of dust, including the provision to implement a dust monitoring programme. Updated. Updated.



Date	Event	Comments received/Notes	How comments were taken into consideration
		continuous.	



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



Appendix A

Point source emissions to surface water including monitoring

Emission Description

Emission: Dewatering is required at Eastern Ridge to allow for the mining of iron ore below the water table. The water is discharged into a series of infiltration basins located on the confluence of the Fortescue River and Homestead Creek. The basins are located on a low rise outcropping of calcrete providing a direct connection to the alluvial aquifer (Fortescue River Basin).

Water from dewatering can be saline and/or contain elevated levels of nutrients and metals.

Impact: Saline water and high levels of nutrients and metals can adversely affect flora and fauna and impact on other water users. Nutrients can cause eutrophication and metals have the potential to impact ecosystem processes and function.

The Fortescue River and Homestead Creek lead to Ophthalma Dam which is an artificial aquifer recharge system. The Ophthalmia aquifer provides a potable water supply via the Ophthalmia Borefield to Newman.

Controls: The licensee has developed the following controls:

- Dewater is discharged to infiltration basins connected by overflow canals which allows for suspended solids to be removed.
- An Environmental Management Plan has been developed for the premises which includes surface water management practices and a surface water monitoring programme. The monitoring programme includes monitoring at the points of discharge for a range of physical and chemical parameters.
- The establishment of site-specific trigger values based on monitoring data from 1999 to 2012. The site-specific triggers were developed in accordance with the Australian Water Quality Guidelines for Fresh and Marine Waters, Australian and New Zealand Environmental and Conservation Council and Agriculture and Resources Management Council of Australia and New Zealand (ANZECC & ARMCANZ, 2000) by Golder Associates.

Risk Assessment

Consequence: Minor

Likelihood: Possible

Risk Rating: Moderate

Regulatory Controls

Condition 2.2.1 identifies all of the authorised emission points to surface water. Condition 3.2.1 details the required frequency and parameters for monitoring of the emissions to surface water. The Licensee will be required to report the monitoring results to DER in the Annual Environmental Report, comparing results against the site-specific triggers, providing details of investigations conducted in response to trigger exceedances, environmental impacts associated with exceedances and remedial action implemented.

DER can consider the application of licence limits for surface water discharges if environmental impacts are identified as a result of changes to the physical and chemical properties of the water discharged.

These conditions replace condition 14, 15, 16, 17, 18, 19 and 20 on the previous version of the Licence.



Residual Risk

Consequence: Minor

Likelihood: Unlikely

Risk Rating: Moderate