Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L5415/1988/9
Licensee	BHP Billiton Iron Ore Pty Ltd
ACN	008 700 981
Registered business address	125 St Georges Tce PERTH WA 6000
DWER file number	DER2013/000900
Duration	17/11/2015 to 16/11/2030
Date of amendment	30 April 2020
Premises details	Wheelarra Hill (Jimblebar) Iron Ore Mine Tenements L52/108, L52/109, L52/163, I126948, M266SA and ML244SA NEWMAN WA 6753

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production / design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	92,000,000 tonnes per annum
Category 6: Mine dewatering	47.225 gigalitres per annual period (12.41 gigalitres reinjected, 2.19 gigalitres discharged to Copper Creek and tributary of Jimblebar Creek, and 32.625 gigalitres discharged to Ophthalmia Dam)
Category 12: Screening etc. of material	200,000 tonnes per year
Category 54: Sewage facility	Approved production or design capacity of 120m^3 per day.
Category 64: Class II putrescible landfill site	15,000 tonnes per annual period
Category 73: Bulk Storage of chemicals etc	5,000 cubic metres in aggregate

This amended licence is granted to the Licensee, subject to the attached conditions, on 30 April 2020, by:

Alana Kidd

Digitally signed by Alana Kidd
Date: 2020.04.30 11:49:53 +08'00'

Alana Kidd

Manager, Resource Industries
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Introduction

This Introduction is not part of the Licence conditions.

DWER's industry licensing role

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

DWER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DWER 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.

Licensees 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. Operating without a licence is an offence under the Act.

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 (BHP Billiton Iron Ore) operates the Wheelarra Hill (Jimblebar) Iron Ore Mine. Jimblebar is situated predominantly within mining lease AM70/266. BHP Billiton Iron Ore (Jimblebar) Pty Ltd is the holder of the mining lease, pursuant to the *Iron Ore (McCamey's Monster) Authorisation Agreement Act 1972*, except in an area that is subject to ownership by the Wheelarra Hill Joint Venture. The split between the partners of AM70/266 is as follows:

- BHP Billiton Iron Ore (Jimblebar) Pty Ltd 51%;
- Maanshan Iron and Steel Company Limited 10%;
- Shagang (Australia) Pty Ltd 10%;
- Tangshan Iron and Steel Company Limited 10%;
- Wugang (Australia) Pty Ltd 10%;
- Itochu Minerals and Energy Australia Pty Ltd 4.8%; and
- Mitsui Iron Ore Corporation 4.2%.

Jimblebar was opened in March 1989 and is located approximately 40 kilometres (km) east of Newman in the Pilbara region of Western Australia. The closest neighbouring property is Sylvania Pastoral Station, which is located approximately 18 km south of the project site and is the closest residence.

BHP Billiton Iron Ore operates crushing, screening and train loading infrastructure at Jimblebar. Iron Ore is sent by rail approximately 450 km to Port Hedland for ship loading and export overseas. Mine dewatering is required to facilitate the mining of ore below the water table. Abstracted water is preferentially used as a water supply for the mining operations. Water in excess of site demand is currently disposed of via reinjection or discharged to Ophthalmia Dam and/or Copper Creek and tributary of Jimblebar Creek.

The licences and works approvals issued for the Premises since 2000 are:

Instrument log		
Instrument	**Issued**	**Description**
L5415/1988/1	17/11/2000	First licence noted in the Industry Licensing System.
L5415/1988/2	17/11/2001	Licence reissue.
L5415/1988/3	17/11/2002	Licence reissue.
L5415/1988/4	17/11/2003	Licence reissue.
L5415/1988/5	17/11/2004	Licence reissue.
L5415/1988/6	17/11/2006	Licence reissue.
L5415/1988/7	17/11/2007	Licence reissue.
W4722/2010/1	2/09/2010	Works approval for a new landfill and bioremediation facility.
L5415/1988/8	17/11/2010	Licence reissue.
W4655/2010/1	13/01/2011	Works approval granted for construction of new ore handling infrastructure to increase the capacity of the mine from 15 Mtpa to 45 Mtpa of iron ore. The expansion involves the construction of new process infrastructure including a primary crusher, conveyor systems, a coarse ore stockpile, a new ore handling plant, a product stockyard, a train load out facility and a rail loop. Additional supporting infrastructure includes WWTPs, bulk chemical storage facilities and associated infrastructure.
W5224/2012/1	7/11/2012	Works approval granted for the Managed Aquifer Recharge (MAR) Project that involves the abstraction of groundwater for the purposes of mining followed by reinjection of this water into injection bores. There are two stages: • Stage 3a**:** Injection of approximately 2 ML/day into one of two existing production bores over a period of two to six months. The bores will be retrofitted with headworks appropriate for injection, monitoring and purging. Stage 3a of the trial will guide the planning and design of Stage 3b.

		• Stage 3b: Injection of approximately 10 ML/day into various combinations of existing retrofitted production bores and new purpose built injection bores.
W5277/2012/1	6/12/2012	Works approval granted for three movable crushers at the premises to supplement ore production through crushing and screening of existing waste stockpile material.
L5415/1988/8	30/05/2013	Licence amendment to: • Add in a category 54 WWTP with the capacity to treat a maximum of 102.5 cubic metres per day (m^3/day) Another WWTP onsite processes 8 m^3/day (total capacity of both plants is 110.5 m^3/day); • Remove conditions (conditions 4, 5 and 6 of the previous licence) relating to the Enviroburner as it no longer present onsite. This was picked up during the inspection conducted by Inspection and Compliance Branch in 2012; • Rename sampling locations for the hydrodynamic trial; • Implement operation of Stage 3a of the hydrodynamic trial; and • Include category 73 for two 1.4 megalitre (ML) vertical cylindrical diesel storage tanks and associated infrastructure.
L5415/1988/8	23/01/2014	Licence amendment to: • Increase category 5 from 15 Mtpa to 51 Mtpa – addition of 6 Mtpa constructed under W5277/2012/1 and 30 Mtpa constructed under W4655/2010/1; • Implement operation of Stage 3b of the hydrodynamic trial – injection of approximately 2 ML/day into one existing production bore (JBGW0076P); • Include groundwater monitoring bores associated with Stage 3b; and • Rename bores associated with Stages 2 and 3a of the hydrodynamic trial.
L5415/1988/8	11/06/2015	Licence amendment to: • Realign the prescribed premises boundary to include Orebody 18 operations (licensed under L8044/1987/2) and the ANSF; • Approve the disposal of wastewater from the ANSF to the Jimblebar Bioremediation Facility • Include a third re-injection bore as part of the Managed Aquifer Recharge (MAR) trial; and • Amend the groundwater monitoring requirements.
L5415/1988/9	5/11/2015	Licence renewal and update to template version 2.9
L5415/1988/9	21/04/2016	Licence amendment to: • Assess the construction and operation of the Orebody 31 dewatering discharge point to Ophthalmia Dam and discharge of up to 16.2 GLpa; • Increase category 6 to include Orebody 18 and Orebody 31 (total 23.5 GLpa discharged via reinjection and discharge to Jimblebar and Copper Creeks and Ophthalmia Dam); • Realign the prescribed premises boundary to include the Orebody 31 deposit; • Consolidate discharge monitoring locations, amend creekline surface water monitoring, including Orebody 18 MAR monitoring requirements and remove requirement to monitor riparian vegetation; and

		• Remove conditions which duplicate regulation under Part IV of the EP Act.
L5415/1988/9	13/10/2016	Licence amendment to: • Include an additional discharge point to a tributary of Jimblebar Creek; • Amend the Orebody 18 and South Jimblebar MAR programs; • Update conditions relating to sewage monitoring; • Update the prescribed premises address; and • Remove conditions that are not valid, enforceable and/or risk based
L5415/988/9	27/08/2018	Licence amendment 1 to: • Increase the Jimblebar (Wheelarra Hill) category 5 Premises design capacity by 7 Mtpa to 65 Mtpa. This increases the Licence total capacity for category 5 to 82 Mtpa. • Increase the throughput for category 6 to 37.735 GL/a. • Increase the throughput capacity for category 64 to 15,000 tpa. • Increase category 73 to 5,000 m^3. • Removal of monitoring requirements for MAR monitoring bore HSJ0169 and replacement with monitoring bore SJ0571RM. • Removal of rising stage sampler locations JBSW006, JBSW007 and JBSW008 and replacement with the three new rising stage sampler locations JBSW009, JBSW010 and JBSW011. • Administrative changes to the Licence, comprising: • Increasing the volume of nutrient rich water in Table 1.2.4 from 400,000 L to 4,000,000 to correct an administrative error; • Update Table 1.2.6 to remove completed construction requirements; • Replace the reference to L2 to L1 in Table 4.2.1 of the Licence.
L5415/1988/9	19/02/2019	Licence amendment 2 to: • Increase Category 5 approved throughput by an additional 10 million tonnes per annum (mtpa) to a total of 92 mtpa. • Reconfigure the Orebody 18 managed aquifer reinjection (MAR) scheme to increase the maximum design capacity from 8.76 Gigalitres per annum (GL/a) (24 ML/day) to 13.14 GL/a (36 ML/day). • Allow for the construction of a new inert landfill (Category 63). • Amend the prescribed premises boundary to include the expansion of the Orebody 18 MAR scheme. • Add Category 12 to the licence, with an approved throughput of 200 000 tonnes per annual period.
L5415/1988/9	16/07/2019	Licence amendment 3 to: • Construct a new 5 mtpa relocatable crusher. • Increase Category 6 from 37.735 gigalitres per annum (GL/a) to 47.255 GL/a. • Construct a second pipeline from Orebody 31 to Ophthalmia Dam.

		• Dispose of 16.425 GL/a (average of 45 mega litres per day (ML/d) of surplus water from the Wheelarra Hill (Jimblebar) mining operations to Ophthalmia Dam. • Substitute three of the MAR bores with a depth to groundwater monitoring requirement with three new monitoring bores adjacent to the MAR bores.
L5415/1988/9	30/04/2020	Licence amendment to: • Correct an administrative error associated with the Orebody 18 managed aquifer recharge (MAR) bores. Amendment Notice 3 incorrectly identified the requirement to monitor flow rate and cumulative volumes in monitoring bores HEOP0842P, HEOP0828M and HEOP0838M, instead of the requirement to monitor the flow rate and cumulative volumes in MAR injection bores HEOP0847P, HEOP0843P and HEOP0845P; • Replace groundwater monitoring JBGW0009P with the nearby HSJ0083M. Monitoring JBGW0009P will be decommissioned as part of an expansion to the Primary Crusher 3 run of mine (ROM) pad; • Expand the boundary of the Premises to the south so the description of the Premises boundary in the Existing Licence coincides with the boundary approved via a Section 45C to MS 857 on 9 November 2018; and • Consolidate the Licence by incorporating changes made under Amendment Notices 1-3.

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

The Licensee must ensure that the following conditions are complied with:

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;*

'AACR' means Annual Audit Compliance Report' in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'annual period' means the inclusive period from 1 July until 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 5667.10' 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;*

'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 notification means;

Director General
Department Administering the *Environmental Protection Act 1986*
Locked Bag 10
JOONDALUP DC WA
info@der.wa.gov.au

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

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

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

'EC' means Electrical Conductivity;

'Department' means the department established under section 35 of the *Public Sector Management Act* 1994 and designated as responsible for the administration of Division 3 Part V of the *Environmental Protection Act 1986*;

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

'GL/a' means gigalitres per annum;

'HDPE' mean 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;

'kL' means kilolitres;

'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;

'Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009)' means the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009) published by the Chief Executive Officer and as amended from time to time;

'Licence' means this Licence numbered L5415/1988/9 and issued under the Act;

'Licensee' means BHP Billiton Iron Ore Pty Ltd;

'L/s' means litres per second;

'MAR' means managed aquifer recharge;

'mbgl' means metres below ground level;

'm^3' means cubic metres;

'm^3/day' means cubic metres per day;

'mg/L' means milligrams per litre;

'µS/cm' means micro Siemens 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;

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

'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;

't/a' means tonnes per annum; 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 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 Premises 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	15,000 tonnes per annual period	None specified
Inert Waste Type 2		None specified
Putrescible Waste		None specified
Clean Fill		None specified
Sewage	120 m^3/day[2]	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*.
Note 2: Quantity limit measured as volume of treated wastewater discharged to designated irrigation areas.

1.2.2 The Licensee shall ensure that where waste does not comply with condition 1.2.1 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a segregated 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 Premises 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	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 areas shown on the Premises Map in Schedule 1 The separation distance between the base of the landfill and the highest groundwater level shall not be less than 2 m
Putrescible Waste		
Clean Fill		
Inert Waste Type 2		Tyres and conveyor belts shall only be landfilled in overburden storage areas located within the prescribed premises boundary shown in Schedule 1.
Sewage	Biological, physical and chemical treatment	120 m^3/day

Note 1: 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*.
Note 2: Additional requirements for the burial of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

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 restoration material; and
(c) restoration 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	Inert and incombustible material	Sufficient to ensure the waste is completely covered and that no waste is exposed	Weekly or as soon as practicable after deposit and prior to compaction
Putrescible Waste			
Inert Waste Type 2 (Tyres and conveyor belts only)	Soil	500 mm	As soon as practical following the achievement of final waste levels in the area(s) in which tyres are 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 ponds in a manner such that:
(a) stormwater runoff resulting from site drainage shall be prevented from entering the wastewater treatment ponds or causing erosion of the outer pond embankments;
(b) overtopping of the ponds shall not occur, except as a result of an extreme rainfall event; and
(c) vegetation and debris (emergent or otherwise) is prevented from growing or accumulating in the pond wastewaters or on the inner pond embankments.

1.2.9 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
Evaporation pond 1	102 m^3/day of effluent from the Hub WWTP	• 1.5 mm HDPE lined evaporation pond to achieve a permeability of $<10^{-9}$ m/s; and • minimum vertical freeboard of 300 mm
Evaporation pond 2	5 m^3/day of effluent from the Primary Crusher WWTP	• 1.5 mm HDPE lined evaporation pond to achieve a permeability of $<10^{-9}$ m/s; and • minimum vertical freeboard of 300 mm
Orebody 18 and Jimblebar bioremediation treatment cells	Hydrocarbon contaminated soil and nutrient rich wastewater from the Ammonium Nitrate Facility	• 1.5 mm HDPE lined cells to achieve a permeability of $<10^{-9}$ m/s; • any contaminated runoff from the treatment cells is contained; • a maximum of 4,000 kL of nutrient rich wastewater per annum may be discharged into the cells; and • the discharge of nutrient rich wastewater is managed to ensure pooling is minimised

1.2.10 The Licensee shall ensure the limits specified in Table 1.2.5 are not exceeded.

Table 1.2.5 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	92,000,000 tonnes of ore per annual period
6	Mine dewatering	47.225 gigalitres per annual period: • 12.41 gigalitres reinjected; • 2.19 gigalitres discharged to Copper Creek and tributary of Jimblebar Creek; and • 32.625 gigalitres discharged to Ophthalmia Dam
12	Screening etc of material	200,000 tonnes per annual period
73	Bulk storage of chemicals, etc	5,000 cubic metres in aggregate

Note 1: *Environmental Protection Regulations 1987*, Schedule 1.
Note 2: Limit applicable upon submission of compliance documentation required under condition 4.3.1

1.2.11 The Licensee must install and undertake the Works for the infrastructure and equipment:
(a) specified in Column 1;
(b) to the requirements specified in Column 2; and
(c) at the location specified in Column 3 of Table 1.2.6

Table 1.2.6 Works specifications		
Column 1	**Column 2**	**Column 3**
Infrastructure / Equipment	**Requirements (design and construction)**	**Site plan reference**
Orebody 18 MAR project		
6 new reinjection bores for the Orebody 18 MAR project (Amendment Notice #1)	Construction of injection bores with flow meters installed; • HMG0051P and HMG0052P as per 'DWER Licence Infrastructure' map in Schedule 1; • OB18MAR05, OB18MAR06, OB18MAR07 and OB18MAR08 located within the red area demarcated 'First zone for reinjection bores' as per Site plan ('DWER Licence Infrastructure') in Schedule 1.	HMG0051P, HMG0052P, OB18MAR05, OB18MAR06, OB18MAR07 and OB18MAR08 in 'DWER Licence Infrastructure' map in Schedule 1.
3 new reinjection bores for the Orebody 18 MAR project (Amendment Notice #2)	Construction of injection bores with flow meters installed; HEOP0847P, HEOPO843P and HEOP0845P.	'Second zone for reinjection bores' as per Site plan ('DWER Licence Monitoring Points') in Schedule 1.
Jimblebar (Wheelarra Hill) mining operations		
Wheelarra Hill processing plant works (Amendment Notice #1)	Installation of a larger fines product conveyor belt at the existing Ore Handling Plant	Jimblebar Ore Handling Plant 1 (OHP) in 'DWER Licence Infrastructure' map in Schedule 1.

	Installation of a modified gearbox for product screen feed conveyor at existing Ore Handling Plant; and Adjustment to process controls systems to increase throughput.	
Wheelarra Hill processing plant works – Primary Crusher 3 (Amendment Notice #2)	Upgrade of Primary Crusher 3 from a 6089 MKII Superior Crusher to a 7089 MK II Superior Crusher involving the installation of a; • Longer main shaft; • A super spider with high • arching arms; • An upper top shell; and • An upgraded driver motor from 630 kW to 750 kW.	Jimblebar Ore Handling Plant 1 (OHP) in 'DWER Licence Infrastructure' map in Schedule 1
Relocatable crusher	Construction of a new 5mtpa relocatable crusher at Jimblebar Hub	5mtpa relocatable crusher in 'DWER Licence Infrastructure' map in Schedule 1
Duplicate pipeline and pump station upgrades	Pipelines constructed using ±5,700m of ±DN 500. Pipework run parallel to the existing water conveyance pipeline between TK1063 to Jimblebar Hub (Figure 2). An upgrade to increase the capacity of the WH56 Pump station by installing two additional diesel pumps and associated equipment.	'Pipeline to be Duplicated' shown on the Jimblebar Hub DWER Licence New Infrastructure map.
Category 64 inert landfill	Located at the eastern edge of Orebody 31	Orebody 31 Inert landfill location as shown in 'DWER Licence Infrastructure' map in Schedule 1.

1.2.12 The Licensee shall commission each Orebody 18 MAR Project reinjection bore for a period not exceeding 7 months, in accordance with Jimblebar L5415/1988/9 Licence Amendment Supporting Documentation (Including information relating to Attachments 1 to 10) November 2017.

1.2.13 The Licensee shall operate the Orebody 18 MAR Project in accordance with the conditions of this Licence, following submission of the compliance document and commissioning report required under condition 4.3.1.

1.2.14 The Licensee shall operate the Orebody 31 mine dewatering infrastructure and discharge of surplus mine dewatering water to Ophthalmia Dam, in accordance with the conditions of this Licence, following submission of the compliance document required under condition 4.3.1.

1.2.15 The Licensee shall operate the relocatable crusher in accordance with the conditions of this Licence, following submission of the compliance documents required under condition 4.3.1.

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 on Map of emission points	Description	Source including abatement
Discharge Points JBDMDW001 JBDMDW002	Discharge to creek line	Water from dewatering South Jimblebar
Ophthalmia Dam Discharge Point	Discharge to Ophthalmia Dam	Water from dewatering of Orebody 31 and Jimblebar Mining Operations
FNJV0150 – Orebody 31 Creek discharge	Contingency discharge to creek line (tributary of Jimblebar Creek) during high rainfall, maintenance and/or emergency events	Water from dewatering of Orebody 31

2.3 Point source emissions to groundwater

2.3.1 The Licensee shall ensure that where waste is emitted to groundwater 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: Emission points to groundwater

Emission point reference on Map of emission points	Description	Source including abatement
Jimblebar reinjection bores JBGW0069P JBGW0076P JBGW0003P	Direct injection below ground	Water from dewatering
Orebody 18 reinjection bores HMG0051P HMG0052P HMG0054P HMG0056P OB18MAR05 OB18MAR06 OB18MAR07 OB18MAR08 HEOP0847P HEOP0843P HEOP0845P		

2.4 Emissions to land

2.4.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.4.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this licence.

Table 2.4.1: Emissions to land		
Emission point reference and location on Map of emission points	**Description**	**Source including abatement**
L2	Unlined evaporation pond	Treated wastewater from the Wheelarra oily WWTP lined pond

2.4.2 The Licensee shall not cause or allow emissions to land greater than the limits listed in Table 2.4.2.

Table 2.4.2: Emission limits to land			
Emission point reference	**Parameter**	**Limit (including units)**	**Averaging period**
L2	Total Recoverable Hydrocarbons	15 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;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
(d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

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	**Parameter**	**Units**	**Frequency**
South Jimblebar JBDMDW001 JBDMDW002 Orebody 31 FNJV0150 (Creek discharge points)	Flow rate	L/s	Monthly (when discharging)
	Cumulative volume	k/L	
South Jimblebar JBDMDEW001 (Main pipeline sample point) Orebody 31 FNJV0150	pH[1]	pH units	Quarterly (when discharging)
	Total Dissolved Solids, Total Suspended Solids, Al, As, B, Ba, $CaCO_3$, Cd, Ca, Cl, Cr, Cu, F, Fe, Pb, Mg, Mn, Hg, Mo, Ni, NO_3, K, Se, SiO_2, Na, SO_4, Zn	mg/L	
Ophthalmia Dam Discharge Point	Flow rate	L/s	Quarterly (when discharging)
	Cumulative flow rate	k/L	

Note 1: pH in-field non NATA accredited analysis permitted

3.3 Monitoring of point source emissions to groundwater

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 point source emissions to groundwater			
Emission point reference	**Parameter**	**Units**	**Frequency**
Jimblebar JBGW0003P JBGW0069P JBGW0076P Orebody 18 HMG0051P HMG0052P HMG0054P HMG0056P OB18MAR05 OB18MAR06 OB18MAR07 OB18MAR08 HEOP0842P HEOP0828M HEOP0838M	Water Level	mbgl	Monthly (when reinjecting)
Jimblebar JBGW0003P JBGW0069P JBGW0076P Orebody 18 HMG0051P	Cumulative Volume	kL	Monthly (when reinjecting)
	Flow rate	L/s	
	Electrical Conductivity	µS/cm	Quarterly (when reinjecting)

HMG0052P HMG0054P HMG0056P OB18MAR05 OB18MAR06 OB18MAR07 OB18MAR08 HEOP0847P HEOP0843P HEOP0845P	pH[1], Total Dissolved Solids, Total Suspended Solids, Al, As, B, Ba, $CaCO_3$, Cd, Ca, Cl, Cr, Cu, F, Fe, Pb, Mg, Mn, Hg, Mo, Ni, NO_3, K, Se, SiO_2, Na, SO_4, Zn, HCO_3, Alkalinity	mg/L	
Jimblebar JBDMDEW001 (Main pipeline sample point)	Electrical Conductivity	µS/cm	Quarterly (when reinjecting)
	pH[1], Total Dissolved Solids, Total Suspended Solids, Al, As, B, Ba, $CaCO_3$, Cd, Ca, Cl, Cr, Cu, F, Fe, Pb, Mg, Mn, Hg, Mo, Ni, NO_3, K, Se, SiO_2, Na, SO_4, Zn, HCO_3, Alkalinity	mg/L	

Note 1: pH in-field non NATA accredited analysis permitted

3.4 Monitoring of emissions to land

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 emissions to land

Emission point reference	Parameter	Units	Frequency
L2	Total Recoverable Hydrocarbons	mg/L	Quarterly
	Flow rate	L/s	
	pH[1]	pH units	

Note 1: pH in-field non NATA accredited analysis permitted

3.5 Ambient environmental quality monitoring

3.5.1 The Licensee shall undertake the monitoring in Tables 3.5.1 and 3.5.2 according to the specifications in those tables.

Table 3.5.1: Monitoring of ambient groundwater quality

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
JBGW0073M JBGW0080M JBGW0117M JBGW0435RM HMG0109M HMG0115M HMG0119M HMG0121M HSJ0083M SJ0571RM HMG0058M HMG0103M HMG0111M1	Standing water level	mbgl	Spot sample	Monthly
JBGW0080M JBGW0115M HMG0109M	Electrical Conductivity	µS/cm	Spot sample	Quarterly
	pH[1]	pH units		

HMG0115M HMG0119M HMG0121M HSJ0083M SJ0571RM HMG0058M HMG0103M HMG0111M1	Total Dissolved Solids	mg/L		
JBGW0115M HMG0109M HMG0115M HMG0119M HMG0121M HSJ0083M SJ0571RM HMG0058M HMG0103M HMG0111M1	Total Suspended Solids, Al, As, B, Ba, $CaCO_3$, Cd, Ca, Cl, Cr, Cu, F, Fe, Pb, Mg, Mn, Hg, Mo, Ni, NO_3, K, Se, SiO_2, Na, SO_4, Zn	mg/L	Spot sample	Quarterly

Note 1: pH in-field non NATA accredited analysis permitted

Table 3.5.2: Monitoring of creek line sites

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
Monitoring Sites Copper Creek downstream (JBSW003) Jimblebar Creek upstream (JBSW004) Jimblebar Creek upstream (JBSW0010) Jimblebar Creek downstream (JBSW005) Jimblebar Creek downstream (JBSW009) Orebody 31 discharge downstream (JBSW011)	pH[1]	pH units	Spot sample	Quarterly when flowing
	Total Dissolved Solids, Total Suspended Solids, Al, As, B, Ba, $CaCO_3$, Cd, Ca, Cl, Cr, Cu, F, Fe, Pb, Mg, Mn, Hg, Mo, Ni, NO_3, K, Se, SiO_2, Na, SO_4, Zn	mg/L		

Note 1: pH in-field non NATA accredited analysis permitted

3.6 Process monitoring

3.6.1 The Licensee shall undertake the monitoring in Table 3.6.1 according to the specifications in that table.

Table 3.6.1: Process monitoring

Monitoring point reference	Process description	Parameter	Limit	Averaging period	Frequency
L1 – Jimblebar Oily Wastewater Treatment Plant	Treated wastewater from the Jimblebar oily WWTP used for dust suppression	Total Recoverable Hydrocarbons	15 mg/L	Spot sample	Quarterly

4 Information

4.1 Records

4.1.1 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 4.1.1(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.

4.1.2 The Licensee must submit to the CEO by 1 October each year an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions in this Licence for the Annual Period.

4.1.3 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.

4.2 Reporting

4.2.1 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 4.2.1 in the format or form specified in that table.

Table 4.2.1: 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
Table 1.2.1	Waste acceptance	None specified
Table 1.2.2	Location of tyre disposal sites and number of tyres disposed at each site during the annual period	None specified
Table 1.2.5	Production or design capacity data and limit exceedances	None specified
Table 2.2.1	Volume of water discharged via each emission point	None specified
Table 2.3.1	Volume of water reinjected via each emission point	None specified
Table 2.4.2 and 3.6.1	Limit exceedances along with a summary on the corrective actions for any exceedances of these limits	None specified
Table 3.2.1	Surface water emission 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 3.3.1	Point source emissions to groundwater 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 3.4.1	Emissions to land monitoring results	None specified

Table 3.5.1	Ambient groundwater monitoring results and a comparison of results against established trigger values specified in the document "Site specific trigger values – Orebody 18', Project No. 137646012-003-M-Rev0 (Golder Associates, 2 July 2013). 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 3.5.2	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 3.6.1	Process monitoring results from emission point L1 (water reused for dust suppression)	None specified
4.1.2	Compliance	None specified
4.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2.

4.2.2 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.

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements

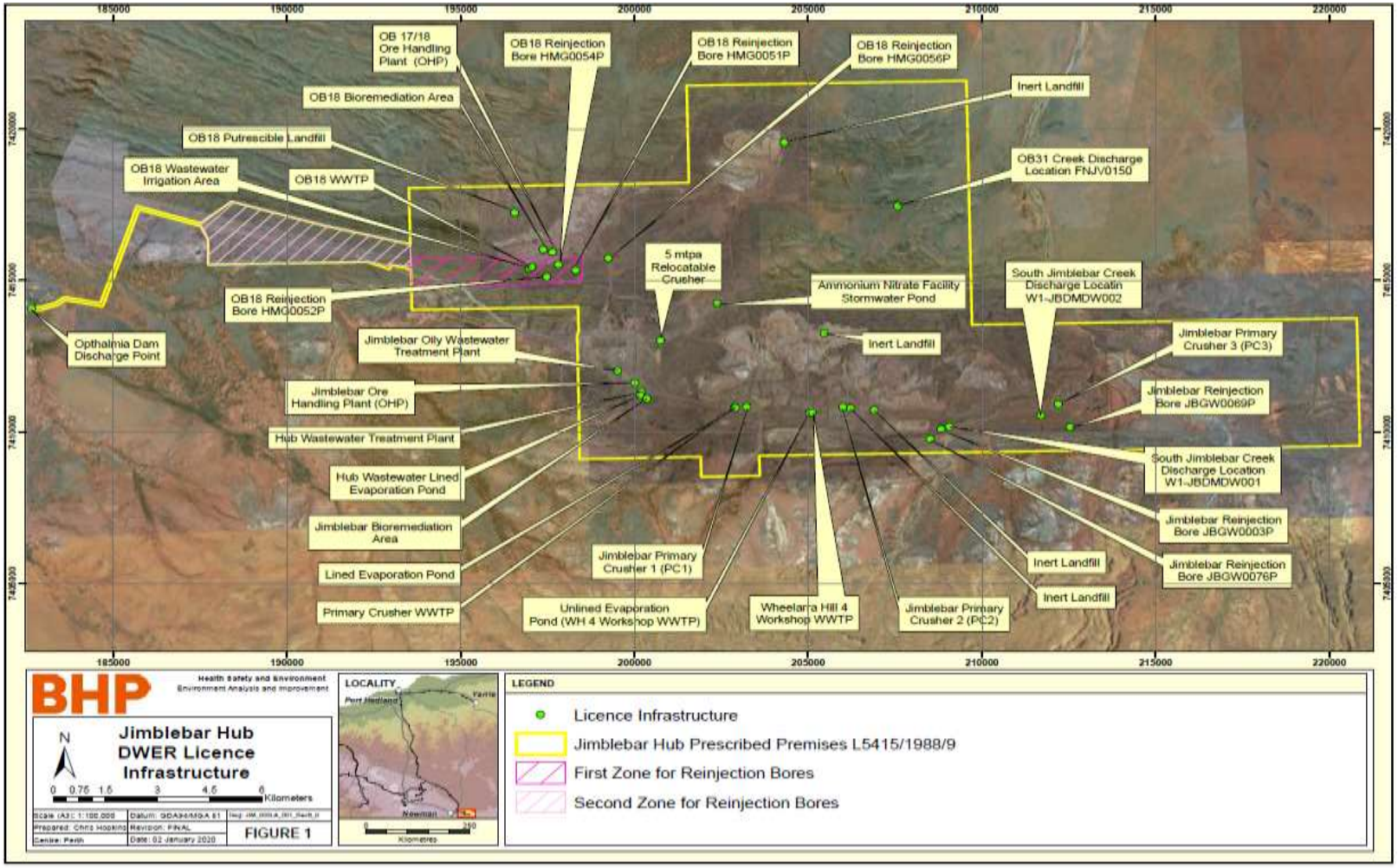
Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
1.2.11	The Licensee shall submit a compliance document to the CEO, following construction of the Orebody 18 MAR Project reinjection bores. The compliance document shall: a) certify that the works were constructed in accordance with the documents specified in Table 1.2.6; and b) be signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company	Within 7 days of the completion of construction	None specified
1.2.12	The Licensee shall submit to the CEO a commissioning report for the Orebody 18 Managed Aquifer Recharge Project. The report shall include: (a) a summary of the monitoring results recorded during commissioning; (b) a list of any original monitoring reports submitted to the Licensee from third parties for the commissioning period; (c) a summary of the environmental performance of the Managed Aquifer Recharge Project as installed, against the design specifications set out in Table 1.2.6; and	Within one month of the completion of commissioning.	None specified

	(d) where they have not been met, measures proposed to meet the design specification, together with timescales for implementing the proposed measures.		
-	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
3.1.4	Calibration report	As soon as practicable.	None specified
	Copies of original monitoring reports submitted to the Licensee by third parties	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Notification requirement 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

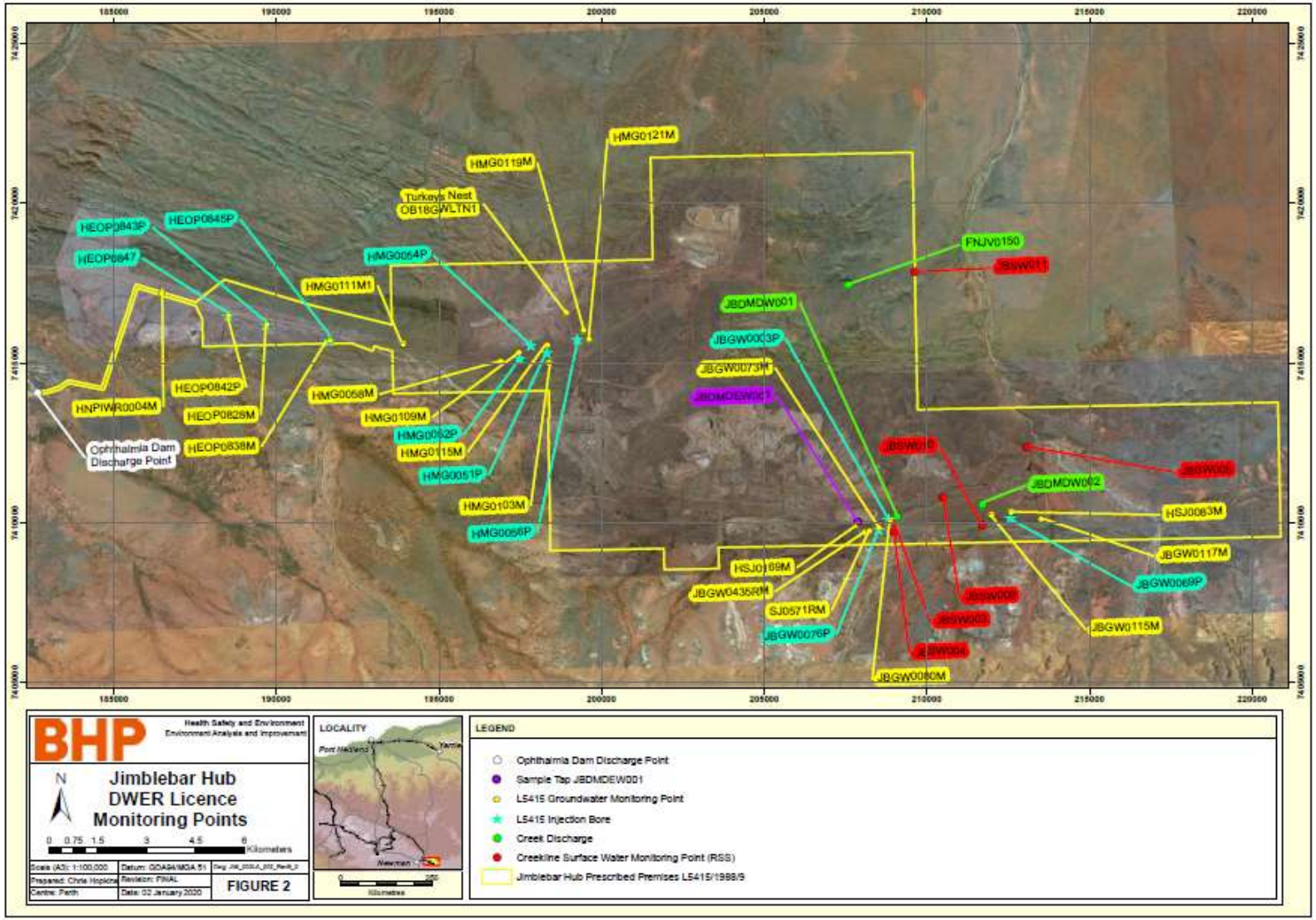
Premises map of prescribed premises boundary and infrastructure



L5415/1988/9

DER2013/000900

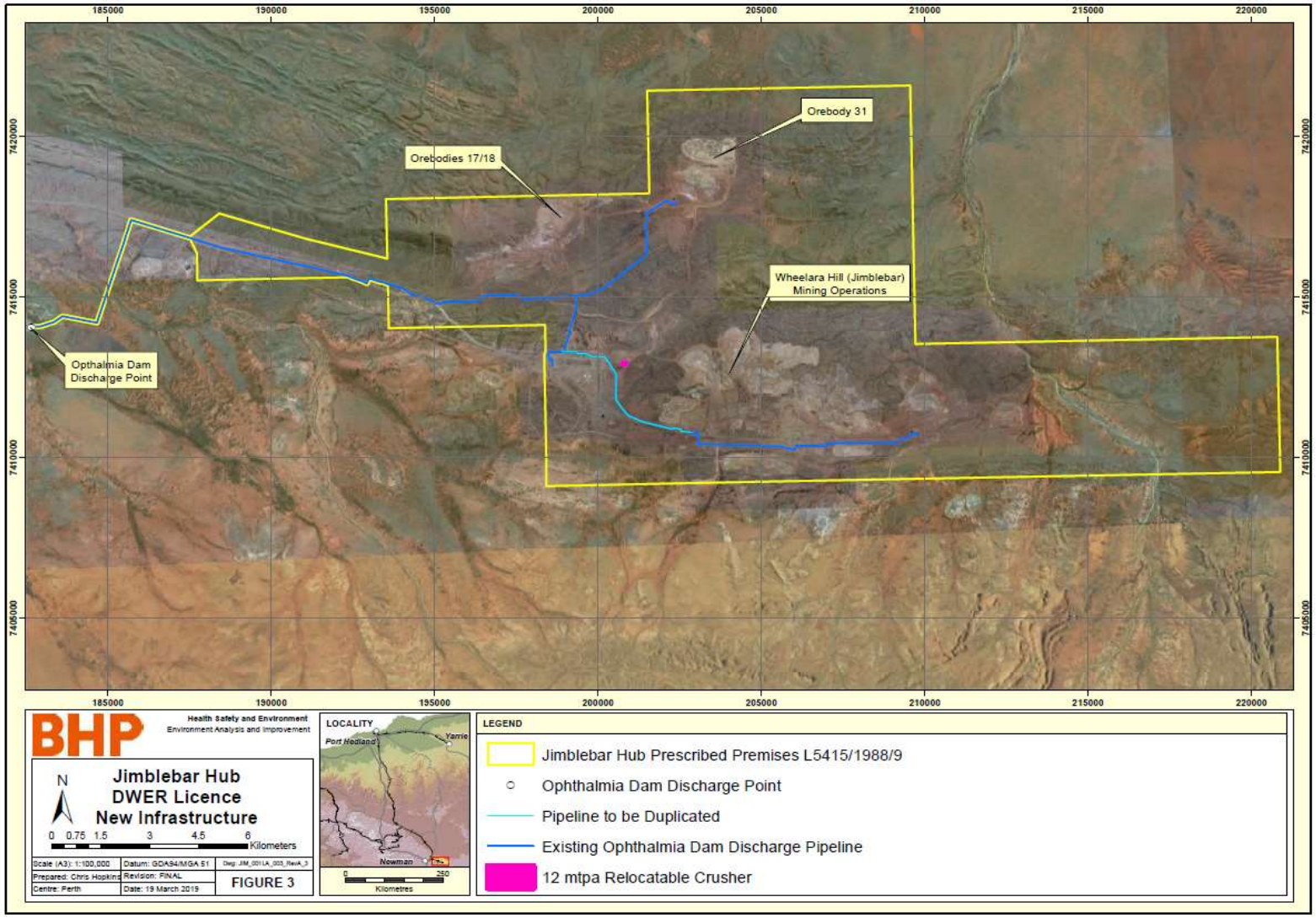
Map of emission points and monitoring locations are shown below



L5415/1988/9

DER2013/000900

Map of Jimblebar Hub DWER Licence New Infrastructure



L5415/1988/9

DER2013/000900

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.

Licence: L5415/1988/9 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 - to be submitted as soon as practicable

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	