



Licence Number	L5415/1988/9
Licence Holder	BHP Billiton Iron Ore Pty Ltd
ACN	008 700 981
File Number:	DER2013/000900
Premises	Wheelarra Hill (Jimblebar) Iron Ore Mine Tenements L52/108, L52/109, L52/163, I126948, M266SA and ML244SA Newman WA 6753
Date of Amendment	16/07/2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Alana Kidd

Manager, Resource Industries

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

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
C&S	Crushing and Screening
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force
GL/a	Gigalitres permit annum

Licence Holder/ Licensee	BHP Billiton Iron Ore Pty Ltd
MAR	Managed Aquifer Recharge
Minister	the Minister responsible for the EP Act and associated regulations
ML/d	Mega litres per day
MS	Ministerial Statement
mtpa	million tonnes per annum
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Notice applies, as specified at the front of this Amendment Notice.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 5 and Category 6. No changes to the aspects of the original Licence relating to Category 12, 54, 64 or 73 have been requested by the Licence Holder.

The following guidance statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

Amendment description

On 20 March 2019, the Licence Holder submitted an application to amend the Wheelarra Hill (Jimlebar) Iron Ore Licence L5415/1988/9. The Licence Holder has requested the following changes to the licence:

Category 5

- Construction of a new 5 mtpa relocatable crusher at the Jimlebar Hub, but not to increase the overall production rate for the prescribed premise beyond the currently approved 92 mtpa (comprising of 75 mtpa at Jimlebar and 17 mtpa at Orebody 18).

Category 6

- Increase Category 6 from 37.735 gigalitres per annum (GL/a) to 47.255 GL/a.
- Construction of a second pipeline along the section of the Wheelarra 5/6 transfer pipeline to the Orebody 31 - Ophthalmia Dam pipeline.
- Disposal of 16.425 GL/a (average of 45 mega litres per day (ML/d) of surplus water from the Wheelarra Hill (Jimlebar) mining operations to Ophthalmia Dam. This represents an increase of 9.49 GL/a and aligns to the maximum disposal volume approved under Ministerial Statement 857.
- To enable managed aquifer recharge (MAR) bore depth to groundwater to be more accurately managed. Substitute three of the MAR bores with a depth to groundwater monitoring requirement (Condition 3.3.1) with three new monitoring bores adjacent to the MAR bores.

Table 2 below outlines summarises the proposed changes to the Licence.

Table 2: Summary of proposed design and throughput capacity changes

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
Category 5	92 mtpa	No change	Construction of a new 5 mtpa relocatable crusher at the Jimlebar Hub.
Category 6	37.735 gigalitres <ul style="list-style-type: none"> 12.41 gigalitres reinjected; 2.19 gigalitres discharged to Jimlebar Creek and Copper Creek; and 23.135 gigalitres discharged to Ophthalmia Dam. 	47.255 GL/a <ul style="list-style-type: none"> 12.41 gigalitres reinjected; 2.19 gigalitres discharged to Jimlebar Creek and Copper Creek; and 32.625 gigalitres discharged to Ophthalmia Dam. 	Disposal of 16.425 GL/a (average of 45 mega litres per day (ML/d) of surplus water from the Wheelarra Hill (Jimlebar) mining operations to Ophthalmia Dam. A second pipeline will be constructed to facilitate this increased discharge.
Category 12	200,000 tonnes per year	No change	
Category 54	Approved production or design capacity of 120m ³ per day.	No change	
Category 64	15,000 tonnes per annual period	No change	
Category 73	5,000 cubic metres in aggregate	No change	

Category 5 – Construction, Commissioning and operation of a new relocatable crusher

The Licensee is seeking to construct and operate a new 5 mtpa relocatable crusher within a cleared area to the east of the Jimlebar Stockyard (Figures 1 and 2). The operation of the 5 mtpa relocatable crusher will enable the site to bring forward the processing of higher grade ore while construction activities for Jimlebar Stretch Assist 2 and 3 (approved under Amendment Notice #2) are undertaken.

The construction of this plant will increase the overall site capacity to 104 mtpa (87 mtpa at Jimlebar and 17 mtpa at Orebody 18), however BHP is not seeking to increase the current approved Category 5 limit of 92 mtpa (75 mtpa at Jimlebar and 17 mtpa at Orebody 18) (BHP, 2019).

The process ore will be stockpiled adjacent to the 5 mtpa crusher and transported via haul truck to a mobile stacker/reclaimer and hopper facility at the western end of the OHP (Refer to Figure 1 below).

The Licensee is proposing to undertake an approximate three month commissioning period for the new crusher. This will involve a dry commissioning period of approximately one month and a wet commissioning period of approximately two months (BHP, 2019).

The purpose of the dry commissioning is to prove that the process circuits can perform their functions and equipment is safe to operate and maintain. No ore will be fed into the crusher during dry commissioning (BHP, 2019).

The purpose of the wet commissioning is to validate that the plant performs as per design specifications under normal operating conditions. Once all components of the plant have been

tested and are confirmed to be working the plant will slowly ramp up to a 5 mtpa processing rate (BHP, 2019).

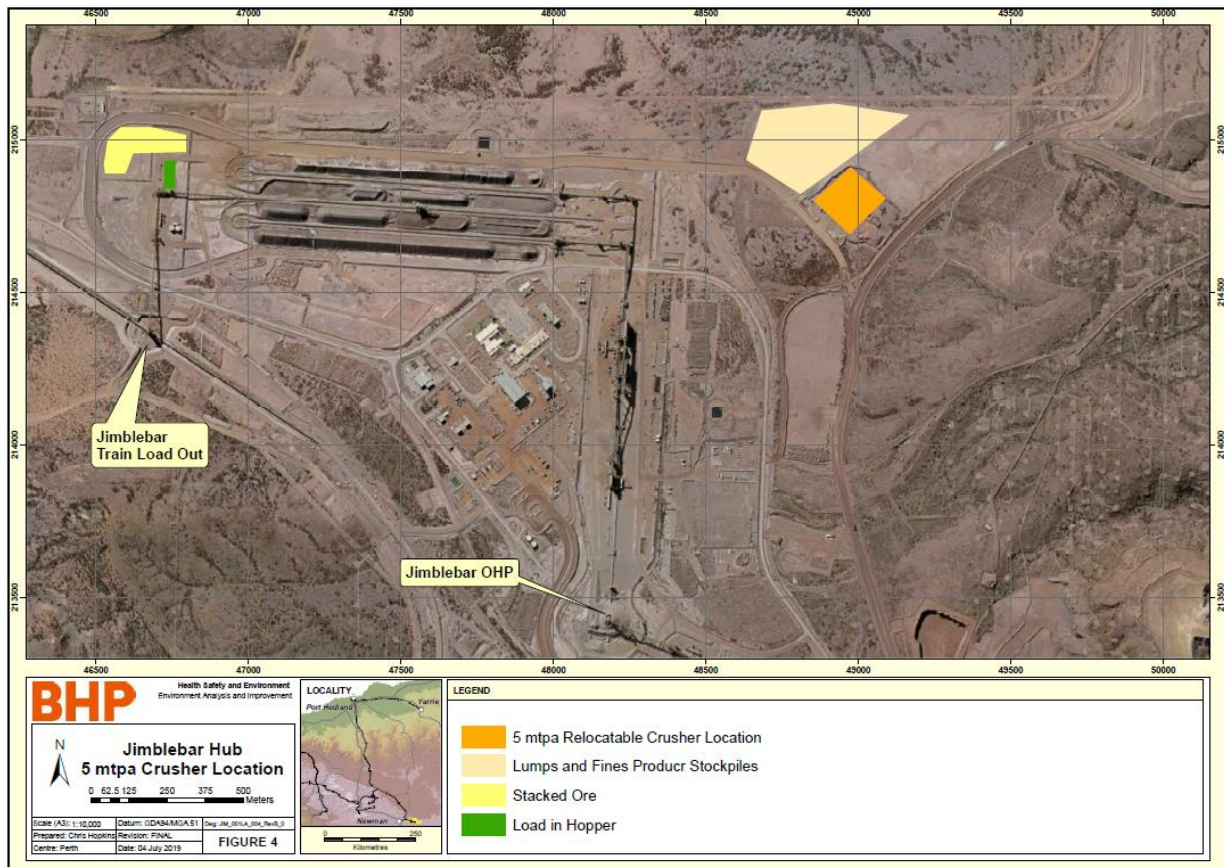


Figure 1. Location of new 5 mtpa relocatable crusher

Category 6 – Construction and commissioning of a new pipeline and increased discharge into Ophthalmia Dam

The Licensee is proposing to construct a second pipeline along the section of the Wheelarra 5/6 transfer pipeline to the Orebody 31 - Ophthalmia Dam pipeline and an upgrade to the WH56 pump station (diesel pump and associated equipment).

The pipeline will be constructed using $\pm 5,700\text{m}$ of $\pm \text{DN } 500$ piping. The pipeline will run adjacent to the existing pipeline (which was constructed under Works Approval W6042/2017/1) (Figure 2) and when complete will enable up to 16.425 GL/a of surplus water to be disposed of to Ophthalmia Dam from the Wheelarra Hill (Jimblebar) mining operations. This represents an increase of 9.49 GL/a and aligns to the maximum disposal volume approved under Ministerial Statement 857 (45ML/d) (BHP, 2019). The new pipeline will tie into the existing Ophthalmia Dam pipeline and no changes to the Ophthalmia Dam pipeline or discharge point are required to enable this increase in volume.

This project will require a one month commissioning period to test the integrity of the pipeline post construction.

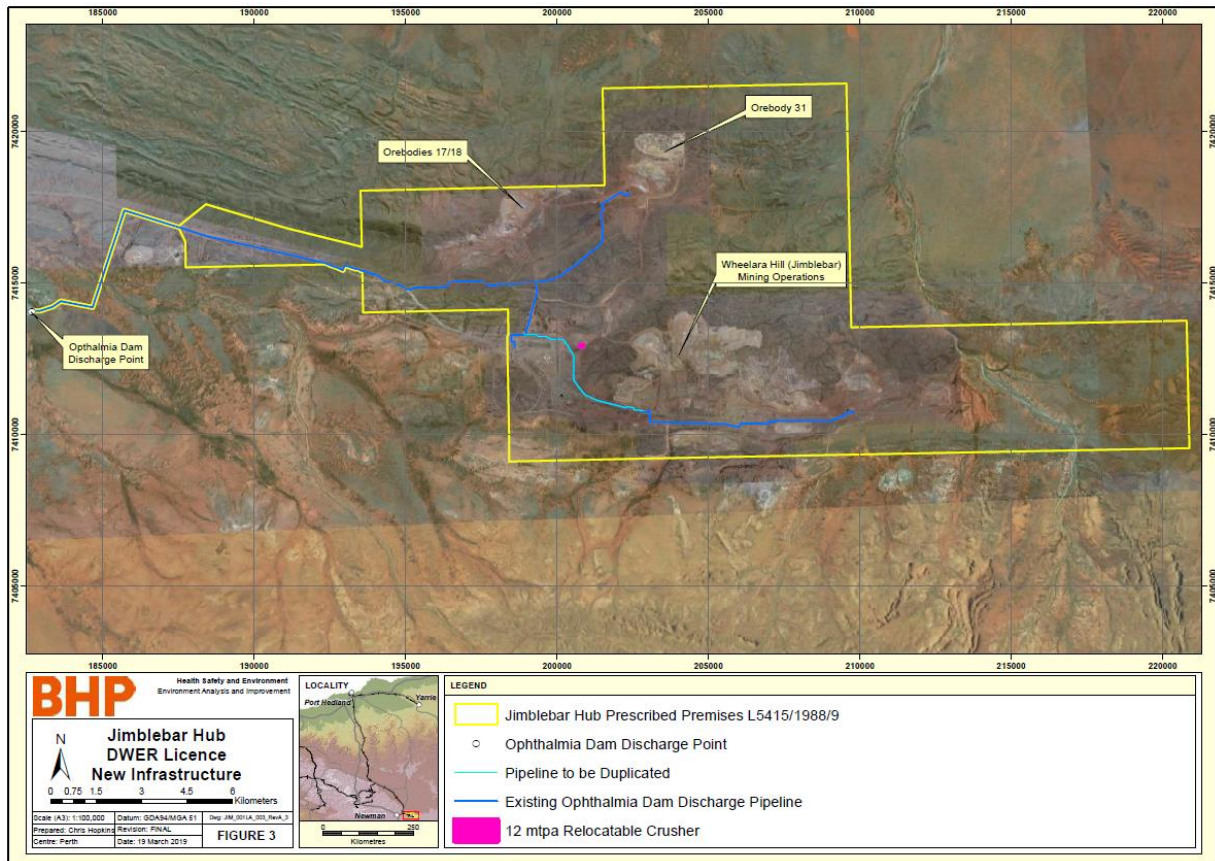


Figure 2. Location of new infrastructure

Additional Changes – Bore name changes and groundwater depth monitoring bores

The three bores associated with the Second Zone for Reinjection have been drilled and renamed within the Licensee’s internal systems (Table 3 and Figure 3) (BHP, 2019).

The licenced MAR bores also have a depth to groundwater monitoring requirement. This is to ensure that the reinjection of water does not impact on the roots of vegetation in the area. Currently the monitoring of water depth within these bores is complex and requires reinjection activities to cease to take the reading. The Licensee is thereby seeking to remove the limit from three of the reinjection bores and place the limit on three adjacent monitoring bores (Table 2). Each proposed new monitoring bore is in close proximity (within 40m) of the related licensed reinjection bore and will therefore accurately reflect any changes to groundwater depth as a result of the operation of the MAR scheme (BHP, 2019).

Table 3: Jimblebar and Orebody 18 injection bores and associated replacement bores for groundwater limits

Managed Aquifer Recharge Bores	Proposed Monitoring Bore (depth to GW)
Orebody 18	
OB18MAR091 (now drilled and renamed HEOP0847)	HEOP0842P
OB18MAR102 (now drilled and renamed HEOP0843P)	HEOP0828M
OB18MAR112 (now drilled and renamed HEOP0845P)	HEOP0838M

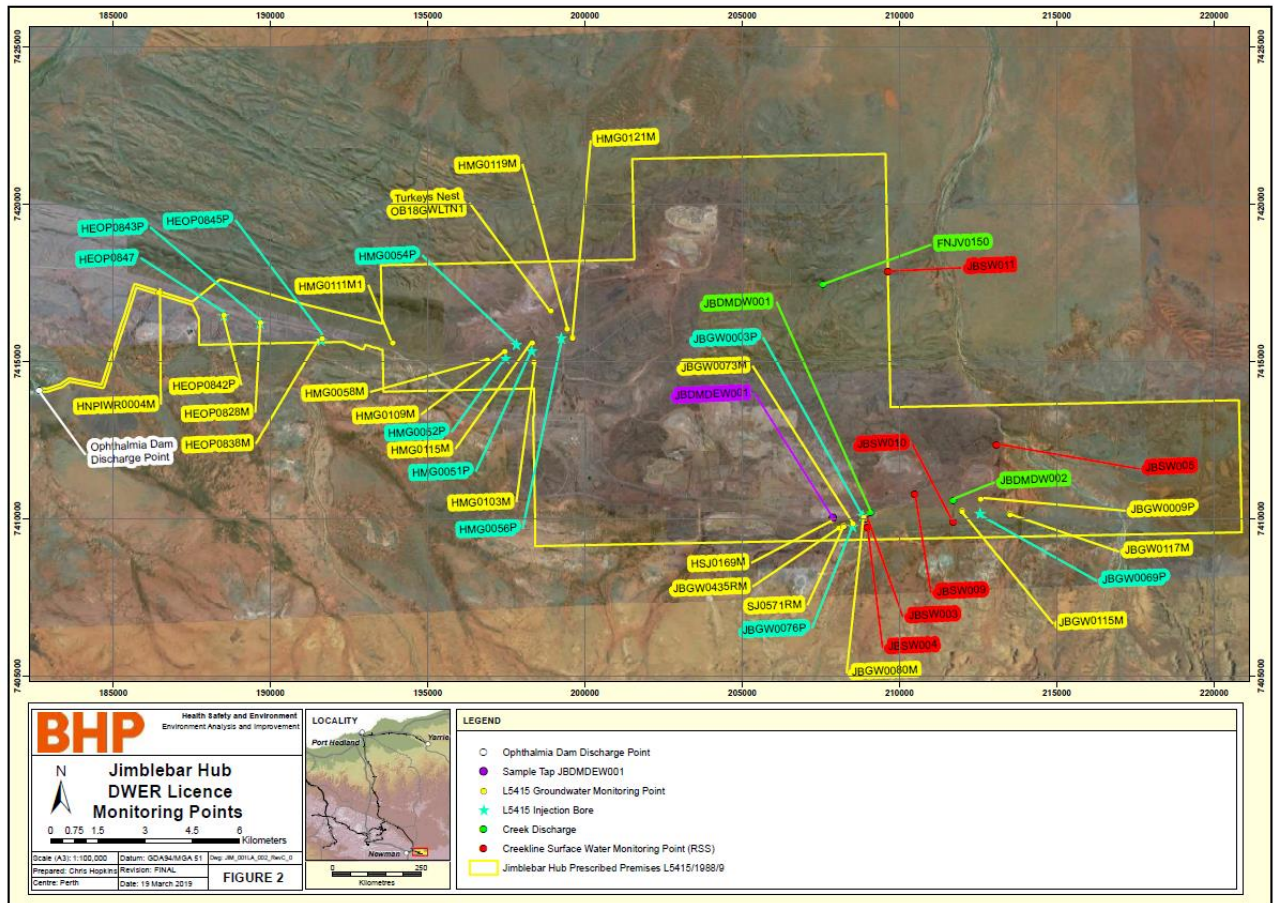


Figure 3. Monitoring points

Other approvals

The Licence Holder has provided the following information relating to other approvals as outlined in Table 4.

Table 4: Relevant approvals

Legislation	Number	Approval
<i>Iron Ore (McCamey's Monster) Authorization Agreement Act 1972</i>	Mining Lease M266SA	Authorise the execution of an agreement relating to the exploration for and the development and treatment of iron ore and for incidental and other purposes
<i>Rights in Water and Irrigation Act 1914 (RIWI Act)</i>	Groundwater Well Licence (GWL)158795(8) (Expires 13 July 2026)	Taking of water for dust suppressions for earthworks and construction purposes, general campsite purposes, mineral ore processing and other mining purposes, potable water supply purposes and reinjection of groundwater
Part IV of the EP Act (WA)	Statement Number 385 (issued 23 May 1995)	Jiblebar Iron Ore Mine Rationalization and Expansion
	Statement Number 439	Development of Orebody 18

Statement Number 683 (issued August 2005, supersedes conditions of MS 385)	Wheellarra Hill Iron Ore Mine extension life of mine proposal
Statement Number 809 (issued October 2009)	Wheellarra Hill mine modification increase mining rate from 12 mtpa to 45 mtpa, additional clearing, increase water supply, construction of a new rail spur and loop and train load out facilities.
Statement Number 857 (issued 18 February 2011)	Jimblebar Iron Ore Project - extend existing Wheellarra Hill open pits, develop the South Jimblebar and Hashimoto deposits, increase ore processing to 75 million tonnes per annum, discharge of up to 45 ML/d of excess mine dewater from Jimblebar deposit to Ophthalmia Dam
Statement Number 1021 (issued 12 November 2015)	Development of Orebody 31, including the discharge of surplus mine dewater to Ophthalmia Dam and Jimblebar Creek. (Note: no ore processing throughput [amount] was approved in this MS.)

Amendment history

Table 5 provides the amendment history for L5415/1988/2.

Table 5: Licence amendments

Instrument	Issued	Amendment
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 involved 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 included 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 involved the abstraction of groundwater for the purposes of mining followed by reinjection of this water into injection bores. There were two stages assessed: <ul style="list-style-type: none"> • 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 #1 to: <ul style="list-style-type: none"> • Add in a category 54 WWTP with the capacity to treat a maximum of 102.5 cubic metres per day (m³/day) Another WWTP onsite processes 8 m³/day (total capacity of both plants is 110.5 m³/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;
L5415/1988/8	19/02/2019	Licence amendment #2 to: <ul style="list-style-type: none"> • 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.
L5415/1988/8.	16/07/2019	Licence amendment #3 to: <ul style="list-style-type: none"> • 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.

Location and receptors

Table 6 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 6: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Sylvania Pastoral Station	18 km to the southwest
Newman township	Newman township 35 km to the west

Table 7 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 7: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Ethel Gorge Stygobiont Threatened Ecological Community (TEC)	The Ethel Gorge Aquifer Stygobiont TEC is located in Ethel Gorge, directly downstream of the Ophthalmia Dam mine dewater discharge point. Ethel Gorge is formed where the Fortescue River flows through the Ophthalmia Range in a northerly direction.
Threatened/Priority Fauna	Six fauna species listed as 'rare or likely to become extinct' or as priority fauna under the <i>Biodiversity Conservation Act 2016</i> within the <i>Wildlife Conservation (Specially Protected Fauna) Notice 2018</i> have been recorded within 20 kilometres of the Premise. <i>Pseudomys chapmani</i> (western pebble-mound mouse) (Priority 4) has been recorded within the Premise.
Fortescue Marsh (Priority Ecological Community and listed on the Directory of Important Wetlands of Australia as a wetland of national significance)	Approximately 80 km downstream of Ophthalmia Dam.
Newman Water Reserve Public Drinking Water Source Area (PDWSA) (Priority 1)	Partially within the Prescribed Premise boundary
Surface water Non-perennial watercourses	<p>The Premise is located in the upper portion of the Fortescue River catchment which drains to the Fortescue Marsh.</p> <p>The Fortescue Marsh is a Priority Ecological Community and listed on the Directory of Important Wetlands of Australia as a wetland of national significance.</p> <p>Two non-perennial watercourses (Shovelanna Creek and Jimlebar Creek) and numerous unnamed non-perennial watercourses flow across the Premises.</p> <p>The majority of the Premises is drained by Jimlebar Creek, which has its headwaters approximately 20km to the south and drains in a northerly direction towards Fortescue River and Fortescue Marsh. The main channel of the Jimlebar Creek passes to the east of the south Jimlebar deposit. Copper Creek is a tributary of Jimlebar Creek which drains the broad valley between the southern flanks of Wheelarra Hill and the northern side of the South Jimlebar deposit (EPA Report 2010).</p> <p>Streamflow in the project area directly correlates to rainfall, with the majority of streamflow occurring during and immediately after each wet season. The known surface water bodies in the vicinity of the Project are; Ophthalmia Dam, on the Fortescue River (27km to the west of the project area) and Innawally Pool within Jimlebar Creek (Note – this pool does not receive run-off flow from any of the mining</p>

	or Prescribed activities within the Premises boundary).
Groundwater	Regional groundwater level is approximately 50 m below ground level. Water quality is generally of fresh quality (TDS 900 mg/L to 1,500 mg/L). The main use of water is for mining and mine dewatering from iron ore mines.

Risk assessment

Tables 8 and 9 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 8: Risk assessment for proposed amendments during construction

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
Cat 5 Processing or beneficiation of metallic or non-metallic ore	Construction, mobilization, and positioning of a 5 mtpa relocatable crusher.	Dust	Sylvania Pastoral Station – 18km to the southwest of the premises boundary; and Native vegetation	Air: Transport through air	Human health impacts, amenity Smothering of vegetation	N/A	N/A	N/A	The construction of the new crusher will occur within an area that has been previously cleared and will involve earth moving (leveling, compaction and drainage), and the installation of pre-fabricated track mounted modules on the earth pad. Minimal dust and noise is expected to be generated during these works.
		Noise	Sylvania Pastoral Station – 18km to the southwest of the premises boundary	Air: Transport through air	Human health impacts	N/A	N/A	N/A	The distance between the potential receptors and the facility is too great for dust and noise impacts from the construction, mobilization and positioning of the new crusher to occur. No complaints have been received relating to dust. Any potential dust emissions can be regulated by section 49 of the EP Act. The provisions of the Noise Regulations are also applicable.
Cat 6 Mine Dewatering	Construction, mobilisation and positioning of infrastructure (pipeline and three new monitoring bores)	Dust	Sylvania Pastoral Station – 18km to the southwest of the premises boundary Native vegetation	Air: Transport through air	Human health impacts Smothering of vegetation	Slight	Unlikely	Low	Site preparation works including earthworks and vehicle movement will generate a minor amount of dust and noise emissions in the local area.
		Noise	Sylvania Pastoral Station – 18km to the southwest of the premises boundary	Air: Transport through air	Human health impacts	Slight	Unlikely	Low	The minor, short term nature of the works, combined with the distance to the nearest potential receptor is sufficient to prevent noise and dust impacts from occurring. Any potential dust emissions can be regulated by section 49 of the EP Act. The provisions of the Noise Regulations are also applicable.

Table 9: Risk assessment for proposed amendments during operation

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Cat 5 Processing or beneficiation of metallic or non-metallic ore	Operation of a new 5 mtpa relocatable crusher.	Dust	Sylvania Pastoral Station – 18km to the southwest of the premises boundary; and Native Vegetation	Air: Transport through air Human health impacts Smothering of vegetation	Minor	Unlikely	Medium	The Licensee is not proposing to increase the approved Category 5 throughput. The amendment is sought to enable the processing of higher grade ore while construction activities for Jimblebar Stretch Assist 2 and 3 are undertaken. Dust suppression at the new crusher will be managed by water-sprays, comprising of a feed tank, pumps and spray nozzles at the crusher, transfer points and stacking points.
			Sylvania Pastoral Station – 18km to the southwest of the premises boundary	Air: Transport through air Human health impacts	Minor	Unlikely	Medium	In addition, the current operation has a number of dust control measures in place which are conducted in accordance with the Jimblebar Hub Environmental Management Plan (Revision 5). Given that the proposed throughput of Category 5 will not be increased, the distance to the closest receptor and the proposed, and existing dust control measures, it is not anticipated that there will be an increased risk of dust emissions from the premises. Any potential dust emissions can be regulated by section 49 of the EP Act. The provisions of the Noise Regulations are also applicable.
Cat 6 Mine Dewatering	Operational discharge of excess mine dewater to the surface	Discharge to surface water	Riparian ecosystem of Ophthalmia Dam	Surface water Impacts to vegetation at the discharge point from increased water volume	unlikely	minor	Medium	The Licensee has developed the Eastern Pilbara Water Resource Management Plan to manage a range of potential hydrological changes (groundwater, surface water and/or soil moisture) resulting from the Licensee's Eastern Pilbara operations. This management

	water at Ophthalmia Dam		Ethel Gorge Stygobiont Community (subterranean fauna) threatened ecological community	Groundwater	Changes to groundwater quality and quantity impacting on health and survival of fauna and native vegetation.	unlikely	minor	Medium	<p>plan has been approved by EPA Services and will continue to be implemented to manage any potential impacts associated with the disposal of surplus water from the Jimblebar mining operations to Ophthalmia Dam.</p> <p>The proposed increase of surplus mine dewater to Ophthalmia Dam will align with the limit approved under Ministerial Statement 857.</p>
			Newman Water Reserve (Priority 1, PDWSA)		Human health impacts from the deterioration of water quality	unlikely	minor	Medium	<p>Given that the Licensee operates in line with an approved management plan and will not be exceeding limits approved under Ministerial Statement 857 no new licence conditions are required for the operation of the duplicate pipeline.</p>

Decision

The Delegated Officer has determined to grant the amended Licence to approve:

- Construct a new 5 mtpa relocatable crusher at the Jimblebar Hub.
- Increase Category 6 from 37.735 gigalitres per annum (GL/a) to 47.255 GL/a.
- Construction of a second pipeline to the Orebody 31 to Ophthalmia Dam.
- Disposal 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.
- Rename three MAR bores.
- Substitute three of the MAR bores with a depth to groundwater monitoring requirement (Condition 3.3.1) with three new monitoring bores adjacent to the MAR bores.

Category 5 – construction and operation of a new relocatable crusher

The Delegated Officer has determined the key emissions associated with the construction, commissioning and operation of a new 5 mtpa relocatable crusher is dust and noise. Based on the application supporting documentation, the Delegated Officer considers the risk associated with these emissions to be low (for construction) to medium (for operation).

The Delegated Officer notes that the *Jimblebar (Wheelarra Hill) Environmental Protection Statement (EPS)*, that was developed by the Licence Holder for assessment by the EPA, assessed the dust and noise impacts associated with Jimblebar (Wheelarra Hill) mining operations up to a processing rate of 75 mtpa. The applicant is not proposing to increase the overall throughput for the prescribed premises beyond the approved 75 mtpa at Jimblebar.

Condition 1.2.11 (Table 1.2.6) has been updated to include the construction of the new crusher.

Condition 1.2.15 has been added to allow the Licencee to operate the relocatable crusher in accordance with the conditions of this Licence, following submission of the compliance documents required under condition 4.3.1

Category 6 – increase in approved throughput

The Delegated Officer has determined the key emissions associated with the increased disposal of surplus water to Ophthalmia Dam to be discharge to surface water. Based on the supporting documentation provided with the application, the Delegated Officer considers the risk associated with these emissions to be medium.

The Eastern Pilbara Water Resource Management Plan has been developed to manage a range of potential hydrological changes (groundwater, surface water and/or soil moisture) resulting from the Licensees Eastern Pilbara operations. This management plan has been approved by EPA Services, DWER and will continue to be implemented to manage any potential impacts associated with the disposal of surplus water from the Jimblebar mining operations to Ophthalmia Dam. The proposed increase of surplus mine dewater to Ophthalmia Dam will align with the limit approved under Ministerial Statement 857 (45ML/d).

Condition 1.2.10 has been amended to reflect the increase in throughput from 37.735 gigalitres per annum to 47.225 gigalitres per annum. The Delegated Officer has determined that no new conditions are required to manage the risks associated with this activity based on the Licence Holder's controls and commitments made in the Eastern Pilbara Water Resource Management Plan.

Category 6 – MAR bores

The Delegated Officer has determined that there were no potential emissions with the renaming of the three MAR bores or the operation of the three new monitoring bores, therefore a risk

assessment has not been undertaken. In regards to the construction of three new monitoring bores the Delegated Officer has determined the key emissions are dust and noise. Based on the supporting documentation provided with the application, the Delegated Officer considers the risk associated with these emissions to be low.

Given, the minor, short term nature of the works, combined with the distance to the nearest potential receptors the Delegated Officer has determined that no new conditions are required to be added to the Licence.

Conditions 1.2.11, 2.3.1 and 3.3.1 have been updated to reflect the changes to bore names.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 3 July 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

- The Prescribed Premises category table on Page 1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below;

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	92 million tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	37.735 <u>47.225</u> gegalitres per annual period (12.41 gegalitres reinjected, 2.19 gegalitres discharged to Jimblebar Creek and Copper Creek, and 23.135 <u>32.625</u> gegalitres discharged to Ophthalmia Dam)
12	Screening etc. of material	50 000 tonnes per year	200 000 tonnes per annual period
54	Sewage facility	100 cubic metres or more per day	120 cubic metres per day
64	Class II putrescible landfill site	20 tonnes or more per year	15 000 tonnes per annual period
73	Bulk storage of chemicals, etc	1,000 cubic metres in aggregate	5 000 cubic metres in aggregate

- Condition 1.2.10 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

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	Category description	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	37.735 <u>47.225</u> gegalitres per annual period: <ul style="list-style-type: none"> 12.41 gegalitres reinjected; 2.19 gegalitres discharged to Jimblebar Creek and Copper Creek; and 23.135 <u>32.625</u> gegalitres 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

3. Condition 1.2.11 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown below:

1.2.11 The Licence Holder 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
<i>Orebody 18 MAR project</i>		
6 new reinjection bores for the Orebody 18 MAR project (Amendment Notice #1)	Construction of injection bores with flow meters installed; <ul style="list-style-type: none"> HMG0051P and HMG0052P as per location on Site plan in Schedule 1 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; OB18MAR09, OB18MAR10 and OB18MAR14 HEOP0842P, HEOP0828M and HEOP0838M. located within the pink area demarcated 'Second zone for reinjection bores' as per Site plan ('DWER Licence Infrastructure') in Schedule 1.	'Second zone for reinjection bores' as per Site plan ('DWER Licence Monitoring Points Infrastructure ') in Schedule 1.
<i>Jimblebar (Wheellarra Hill) mining operations</i>		
Wheellarra Hill processing plant works (Amendment Notice #1)	Installation of a larger fines product conveyor belt at the existing Ore Handling Plant Installation of a modified gearbox for product screen feed conveyor at existing Ore Handling Plant; and Adjustment to process controls systems to increase throughput.	Jimblebar Ore Handling Plant 1 (OHP) in 'DWER Licence Infrastructure' map in Schedule 1.
Wheellarra 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; <ul style="list-style-type: none"> Longer main shaft; A super spider with high arching arms; 	Jimblebar Ore Handling Plant 1 (OHP) in 'DWER Licence Infrastructure' map in Schedule 1

	<ul style="list-style-type: none"> • An upper top shell; and • An upgraded driver motor from 630 kW to 750 kW. 	
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.

4. The Licence is amended by the insertion of condition 1.2.15 shown in bold text below:

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.

5. Condition 2.3.1 of the Licence is amended by the deletion of the text in strikethrough and insertion of the bold text shown below:

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
<u>Jimblebar reinjection bores</u> JBGW0069P JBGW0076P JBGW0003P	Direct injection below ground	Water from dewatering
<u>Orebody 18 reinjection bores:</u> HMG0051P HMG0052P HMG0054P HMG0056P OB18MAR05 OB18MAR06 OB18MAR07 OB18MAR08 OB18MAR09 OB18MAR10 OB18MAR11 HEOP0847P HEOP0843P HEOP0845P		

6. Condition 3.3.1 of the Licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown below:

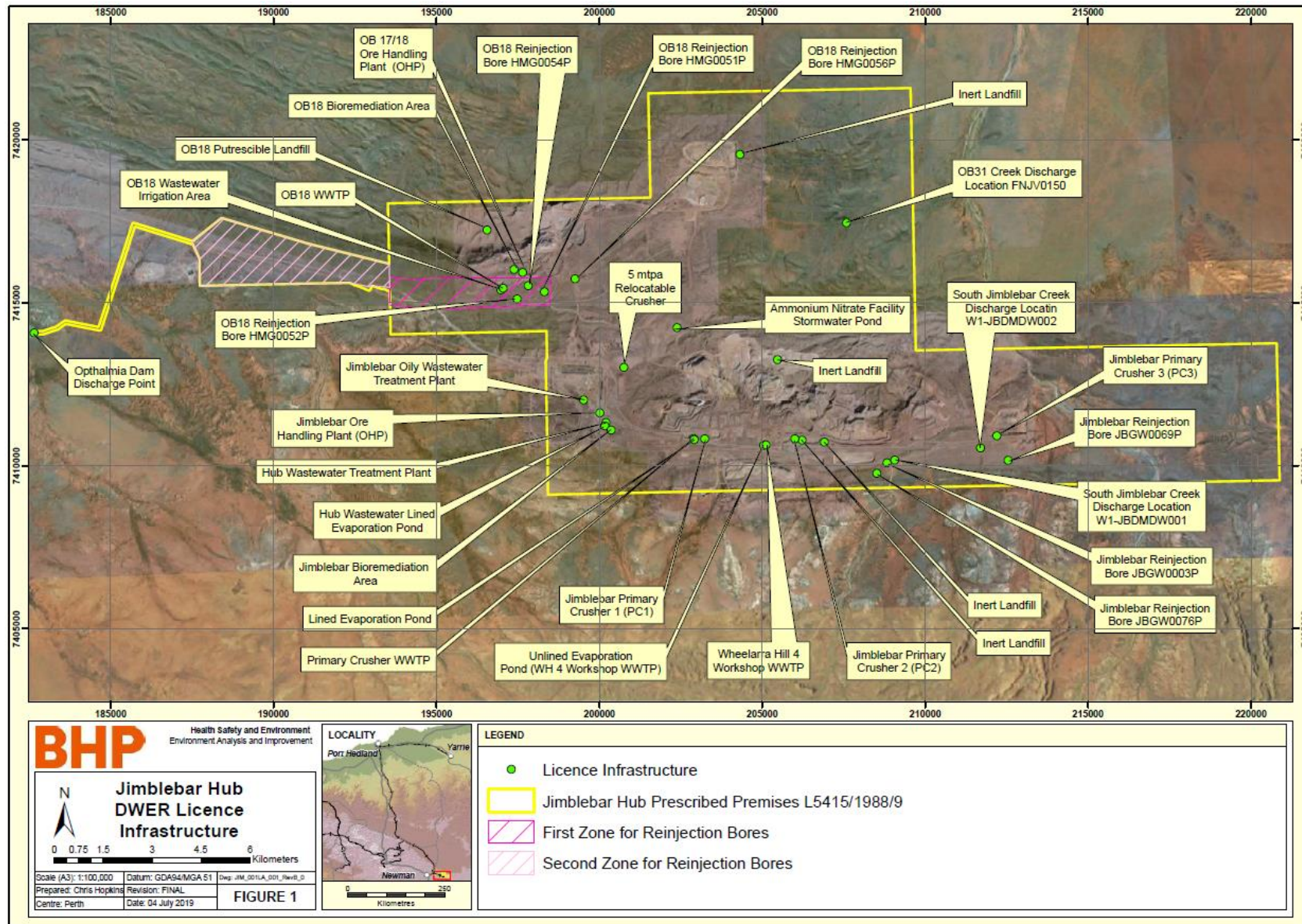
3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of point source emissions to groundwater			
Emission point reference	Parameter	Units	Frequency
<u>Jimblebar</u> JBGW0076P JBGW0003P JBGW0069P <u>Orebody 18</u> HMG0051P HMG0052P HMG0054P HMG0056P OB18MAR05 OB18MAR06 OB18MAR07 OB18MAR08 OB18MAR09 OB18MAR10 OB18MAR11 HEOP0842P HEOP0828M HEOP0838M	Water Level	mbgl	Monthly (when reinjecting)
	Cumulative Volume	kL	
	Flow rate	L/s	
<u>Jimblebar</u> JBDMDEW001 (Main pipeline sample point) <u>Orebody 18</u> HMG0051P HMG0052P HMG0054P HMG0056P OB18MAR05 OB18MAR06 OB18MAR07 OB18MAR08 OB18MAR09 OB18MAR10 OB18MAR11 HEOP0847P HEOP0843P HEOP0845P	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

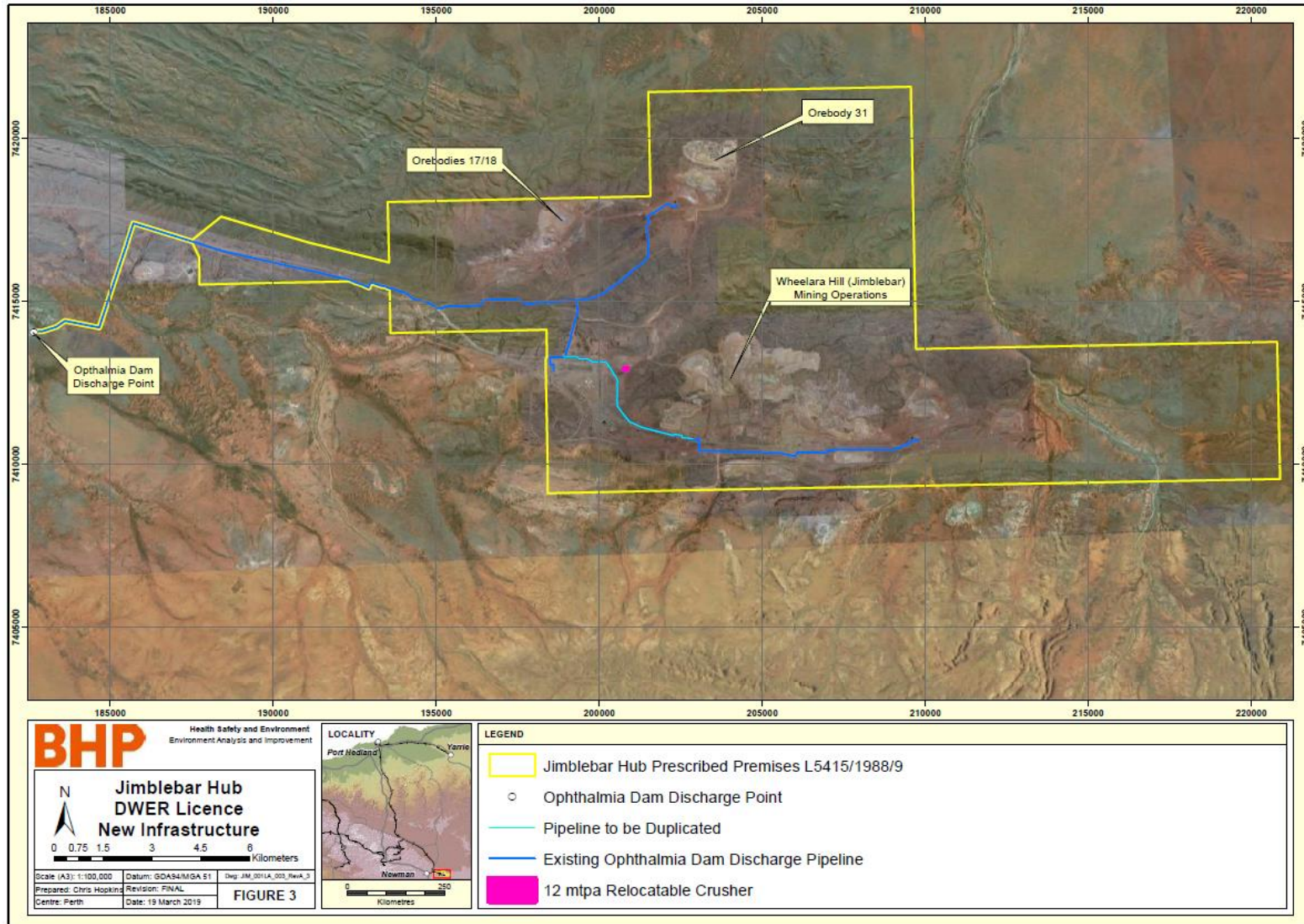
7. The Premise map titled 'DWER Licence Infrastructure' has been deleted and is replaced with the two maps below. The first replacement map titled 'DWER Licence Infrastructure' shows the location of the 5 mtpa Relocatable Crusher and the second map titled 'DWER Licence New Infrastructure' shows the location of duplicate pipeline.

PREMISES MAPS



Licence: L5415/1988/9

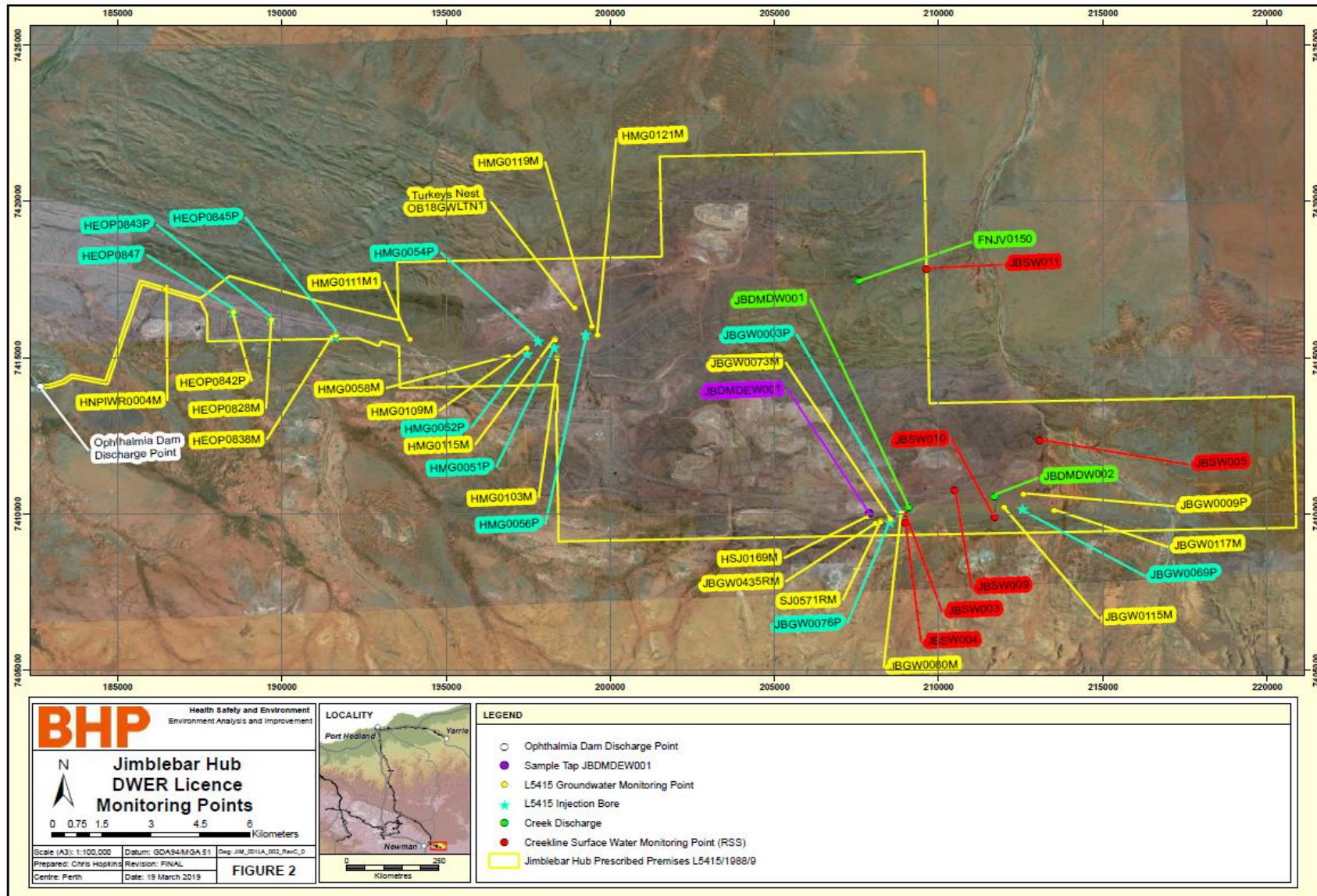
Amendment Notice #3



Licence: L5415/1988/9

Amendment Notice #3

8. The map of emission points and monitoring locations in Schedule 1 has been deleted and replaced with the map shown below.



Licence: L5415/1988/9

Amendment Notice #3

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Application to Amend the Jimblebar Hub Environmental Licence L5415/1988/9, Licence Amendment form and supporting documentation, March 2019	BHP, 2019	DWER records (A1774191)
2	Ministerial Statement 857	MS 857	http://www.epa.wa.gov.au/sites/default/files/Ministerial_Statement/00857.pdf
3	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	n/a	
4	DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.		
5	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.		

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 3 July 2019 for review and comment. The Licence Holder responded on 12 July 2019. The following comments were received on the draft Amendment Notice.

Summary of Licence Holder comment	DWER response
Page 4, Category 6 second dot point should read: "Construction of a second pipeline along the section of the Wheelarra 5/6 transfer pipeline to the OB31 - Ophthalmia Dam pipeline	Updated as requested
<ul style="list-style-type: none">• Rather than installing a 12 mtpa crusher a 5 mtpa crusher will be installed.• The crusher will be in the same location however rather than conveyors connecting the facility to the Jimblebar OHP / Train Load Out, the process ore will be stockpiled adjacent to the 5 mtpa crusher and transported via haul truck to a mobile stacker / reclaimer and hopper facility at the western end of the OHP.	Maps and text have been updated as requested.