Government of Western Australia
Department of Water and Environmental Regulation

Amendment Notice 1

Licensee	BHP Billiton Iron Ore Pty Ltd
ACN	008 700 981
Licence Number	L7851/2002/6
File Number	DER2013/000925
Premises	Mining Area C Mining Tenement ML281SA NEWMAN WA 6753
Date of amendment	5 October 2017

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* 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.

Date signed: 5 October 2017

Alana Kidd

Manager Licensing – 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
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 *Environmental Protection Act 1986* Locked Bag 33 Cloisters Square PERTH WA 6850 info-der@dwer.wa.gov.au
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* 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	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
GL/a	gigalitre per annum
ha	hectare
kL/year	kilolitres per year
km	kilometre

Licence Holder	BHP Billiton Iron Ore Pty Ltd
LV	Light vehicle
m^3	cubic metres
MAC	Mining Area C
MAR	Managed Aquifer Recharge
ML/day	Megalitres per day
MS	Ministerial Statement
mtpa	million tonnes per annum
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in *Guidance Statement: Risk Assessment*
TRH	Total Recoverable Hydrocarbons
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)
$\mu g/m^3$	micrograms per cubic metre
µS/cm	micro Siemens per centimetre
WWTP	Waste Water Treatment Plant

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 6 and 63. No changes to the aspects of the original licence relating to Category 5, 54, 73, 85B and 89 activities have been requested by the Licensee.

The following DER 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); and
- *Guidance Statement: Environmental Siting* (November 2016).

Amendment Description

On 29 November 2016, BHP Billiton Iron Ore Pty Ltd (Licensee) submitted an application to DER for an amendment to the Mining Area C (MAC) Project licence (L7851/2002/6).

On 8 August 2017, BHP requested for inclusion in this amendment, the ability to construct and operate a new spray field to replace the existing Mulla Mulla Camp spray field. The new spray field will be located to the north east of the Mulla Mulla Camp, within the premise boundary. Additional amendment information on the new spray field was provided by BHP on 4 September 2017 to facilitate the inclusion of further information into this Amendment Notice.

This Notice is the result of the Licensee applying for an amendment under section 59B of the EP Act. The Licensee has applied to make the following changes:

1. Include construction and operation of a new Managed Aquifer Recharge (MAR) scheme at Juna Downs and increase the capacity of Category 6 to include the 7.3 gigalitre per annum (GL/a) as shown in Table 1;
2. Increase the Category 63 capacity for the inert landfill to 9,000 tonnes per annual period as shown in Table 1;
3. Include a reference to the light vehicle washdown bay and associated monitoring points;
4. Increase the premises boundary to include the Juna Downs MAR scheme; and
5. Include construction of a new 3.047 ha spray field and ~2 km of pipeline to service the existing Mulla Mulla Camp WWTP.

Table 2: Proposed design or throughput capacity changes requested in amendment

Category	Current Design Capacity	Proposed Design Capacity	Description of proposed amendment
6	27,541,000 tonnes per annual period	34,931,000 tonnes per annual period	Increase in capacity due to construction and operation of the Juna Downs MAR scheme and update of amount approved for disposal to the Central Sedimentation Basin
63	5,000 tonnes per annual period	9,000 tonnes per annual period	Increase in capacity due to two once off disposals for the kitchen upgrade and site clean-up

Juna Downs MAR scheme

Current mine dewatering not used in ore processing and dust suppression is disposed of via infiltration basins and MAR bores. Dewatering volumes at MAC are projected to increase significantly from 2017 – 2021 with peak volumes estimated to reach up to 32 megalitres per day (ML/day) in 2017 and more than 70 ML/day in 2021. Site water demand over the same period is projected to remain relatively constant at around 10 to 14 ML/day, which will result in estimated surplus water volumes of 22 ML/day in 2017, increasing to 60 ML/day during 2021.

At present the following dewatering disposal options are approved:

- 27,541,000 tonnes per annual period, being:
  - 5,840,000 tonnes per annual period reinjected (at A Deposit);
  - 2,081,000 tonnes per annual period (average of 1 ML/day) discharged to the Western Sediment Basin;
  - 8,670,000 tonnes per annual period (average of 24 ML/day) discharged to the Central Sediment Basin. During this amendment the Licensee has stated that *"there is an error in the addition of the current licence volume"* (BHP, 2016). The average of 24 ML/day equates to 8,760,000 tonnes per annual period rather than 8,670,000 tonnes per annual period; and
  - 10,950,000 tonnes per annual period (average of 30 ML/day) discharged to the Packsaddle Infiltration Ponds.

Over the next 12 months as mining progresses to A Deposit, it will become necessary to cease reinjection of groundwater at A Deposit, and the Juna Downs MAR scheme will then manage the surplus mine dewatering.

The Juna Downs MAR scheme will consist of:

- six reinjection bores (four are currently drilled and two are yet to be determined);
- 4 monitoring bores;
- 22 km of pipeline; and
- Pump with a 20 ML/day capacity.

The existing A and E deposit lined transfer ponds will be used for the transfer of mine dewater to the Juna Downs MAR scheme reinjection bores.

Reinjection is the preferred method of disposing of mine dewater at MAC, however the Licensee also has the option of disposing excess mine dewater to three infiltration ponds which are specified emission points on Licence L7851/2002/6. Multiple disposal options provides the Licensee with flexibility in surplus water management and enables a range of

contingencies to be employed should one system be unavailable. In the short to medium term, the Licensee has advised the infiltration options will be sufficient to manage surplus water at MAC should injection not be possible. The Licensee is also investigating additional MAR options at Camp Hill, which if progressed, would be subject to a separate application under Part V of the EP Act.

The Licensee has requested that Condition 1.2.10 be updated for Category 6 to increase the design capacity limit from 27,541,000 tonnes per annual period to 34,931,000 tonnes per annual period. This includes reference to 7,300,000 tonnes per annual period being reinjected for the Juna Downs MAR scheme and the 90,000 tonnes per annual period difference for disposal at the Central Sediment Basin.

Two additional bores; HGSL0016 and HGSL0017 have not been installed at the time of this assessment. These bores will be installed within the area demarcated 'Indicative Area for New Bores' within Schedule 1 (Premises map).

Increase in Category 63 capacity

The Licensee has requested that Condition 1.2.2 be updated for Category 63 to increase the design capacity limit from 5,000 tonnes per annual period to 9,000 tonnes per annual period.

There are currently two projects at MAC which require disposal to the Class I inert landfill:

- Kitchen upgrade project at Packsaddle Camp, which has generated a once-off 1,000 tonnes of Inert Waste Type 1; and
- Site clean-up, which is expected to generate a once-off 3,000 tonnes of Inert Waste Type 2 (rubber / tyres).

Include the light vehicle washdown bay and associated monitoring points

The Licensee has requested that reference be made to the light vehicle washdown bay for emissions to land in Condition 2.3.1.

The Licensee has advised that the light vehicle (LV) washdown bay is located adjacent to the workshops and the heavy vehicle washdown bay. Untreated washdown water from the LV area discharges directly to the Treated Oily Water Ponds (Condition 1.2.11).

Expansion of the premises boundary

The Licensee has requested that the premises boundary be increased to include the Juna Downs MAR scheme.

Construction of a new 3.047ha spray field and ~2km of pipeline

The Licensee has requested that a new spray field be approved for construction and operation to service the existing Mulla Mulla camp WWTP. The removal of the existing spray field is required to accommodate the expansion of the existing camp. The existing spray field will be decommissioned when the new spray field has been commissioned and is in operation.

There will be no changes to the existing camp WWTP. As part of the proposed (future) camp expansion BHP Billiton will be installing an additional WWTP. The new WWTP will be the subject of a separate works approval application and is not related to the current spray field relocation.

The spray field is to be located approximately 1.5 km northeast of the WWTP on rocky ground containing sparse vegetation and little visible topsoil. The pipeline route to the spray field will be 2 km in length. This is to circumvent the Camp and to follow existing cleared corridors where practicable.

The pipework will be 110dia HDPE, PE100 PN12.5 and will be protected and buried in a trench with sand bedding with a depth of cover of 900mm in areas subject to vehicular traffic and 750mm in areas not subject to vehicular traffic. No automated leak detection mechanisms will be installed within the treated effluent pipeline conveying the effluent to the spray field.

The spray field will be fenced using 4-strand fencing to prevent large fauna (e.g. livestock) entry.

Other approvals

The Licensee has provided the following information relating to other approvals as outlined in Table 2.

Table 3: Relevant approvals

Legislation	Number	Approval
Part IV of the EP Act (WA)	Ministerial Statement (MS) Number 491	Multiple Iron Ore Mine Development, Mining Area C – Northern Flank, 100 km north-west of Newman (Note: '*Water usage and dewatering requirements'* was removed as a Part IV Key Characteristic in March 2014 as *'conservation values are managed under the Life of Mine EMP; dewatering and discharge can be managed under other legislation'*).
	Life of Project Environmental Management Plan Revision 6 (EMP, Rev 6)	Mining Area C Life of Project Environmental Management Plan, BHP Billiton Iron Ore Pty Ltd, Revision 6, 31 January 2016
Iron Ore (Mount Goldsworthy) Agreement Act 1964	7 February 2014	State Agreement
Rights in Water and Irrigation Act 1914	Groundwater Licence (GWL) 178477(2)	Juna Downs Borefield with an allocation of 750,000 kL/year from the Wittenoom Aquifer

Clearing

The clearing of native vegetation is not approved under this Licence.

BHP, 2016 states that the project will require the clearing of approximately 20 hectares (ha) of native vegetation for the construction of the Juna Downs MAR scheme pipelines and reinjection bores. All clearing for the Juna Downs MAR scheme will be undertaken in accordance with the approved Native Vegetation Clearing Permit (NVCP) CPS 7139/1 (or subsequent revisions). Any clearing required for the construction of a new 3.047 ha spray field and associated pipeline will be undertaken in accordance with Ministerial Statement 491.

Consultation

A letter of referral was sent to the Department of Water (DoW) and Department of Parks and Wildlife (Parks and Wildlife) on 28 December 2016.

DER (now DWER) received the following comments from DoW on 16 January 2017:

- *"DoW has recently reviewed the Juna Downs MAR Groundwater Modelling Report; and Juna Downs MAR Scheme Ecohydrological Monitoring Framework during the assessment of the EMP Rev 6, and provided feedback to the proponent – however the proponent will need to apply for an amendment to their current groundwater licence"*. *"The licence will need to be consistent with the Part V approval, DoW will ensure that the MAR is included as a licensed activity"*.
- DoW *"considers the proposed amendment to increase the total Facility design capacity to 34.9312 GL/a by adding 7.3 GL/a to the Juna Downs MAR scheme, is acceptable, provided the proponent ensures compliance with Condition 5 of MS 491. This will ensure groundwater dependent ecology is minimally impacted by the operations. The monitoring and management measures detailed in Table 5 are acceptable triggers and thresholds for this purpose"*.

DER (now DWER) received the following comments from Parks and Wildlife on 18 January 2017:

- "*It is noted that the Mine has approval under Part IV of the EP Act 1986, MS 491, which includes conditions and proponent commitments for the protection of the surrounding environment. It appears that BHP has considered their requirements under Part IV of the EP Act 1986. Parks and Wildlife's Pilbara Region has reviewed the licence amendment with the assumption that any environmental impacts do not differ from those detailed and managed under the Office of the Environmental Protection Authority's approved Environmental Management Plan (Revision 6, 31 January 2016) for Mining Area C operations"*.
- *"A portion of Juna Downs Station, where the proposed MAR project is located, was excluded from pastoral lease in July 2015. The land is currently Unallocated Crown Land (UCL), proposed to be added to the conservation reserve system. The area has been proposed for addition to the conservation reserve system due the occurrence of the Coondewanna flats [priority 3(i)] and Lake Robinson (priority 1) Priority Ecological Communities (PEC) which are not currently represented within the reserve system".*
- *"Parks and Wildlife has requested that BHP Billiton provides further information to Parks and Wildlife primarily on the reasoning behind the proposed location of the managed aquifer recharge scheme, and the likely maximum extent of the activities, and potential impacts, specifically in relation to any potential implications for departmental management (i.e. fire, weeds, access etc.) for the former Juna Downs pastoral lease"*. Provided that BHP Billiton is willing to work with the Department on these issues, this should not prevent DER from progressing the assessment of the current licence amendment.
- *"Monitoring proposed by BHP Billiton appears to be acceptable in detecting potential impacts of the MAR project on the Coondewanna flats. Parks and Wildlife is unable to verify the validity, or robustness of the hydrological modelling and its ability to predict impacts, given the Departments limited expertise in this area"*.
- *"Although impacts to priority flora species should be avoided where possible, it is unclear if CPS 7139/1 is able to manage potential impacts to these species"*.

Location, environmental siting and potential receptors

MAC is located approximately 90 kilometres (km) north-west of the town of Newman in the Pilbara region of Western Australia.

The Mulla Mulla Camp is located more than 2.5 km to the east of the Juna Downs MAR scheme area. As this Camp is operated by the Licensee, it is not considered a sensitive land use or receptor by DER for the purposes of assessing the risks associated with the emissions and discharges from the proposed scheme.

Tables 3 and 4 list the relevant sensitive land uses and specified ecosystems in accordance with DER's Guidance Statement: *Environmental Siting*.

Table 4: Receptors and distance from prescribed premises

Residential and sensitive premises	Distance from Prescribed Premises
Rio Tinto Iron Ore's Hope Downs One Mining Operation	10 km east.

Table 5: Specified ecosystems

Specified ecosystems	Distance from Prescribed Premises
Parks and Wildlife (now Department of Biodiversity, Conservation and Attractions) tenure	The Juna Downs MAR scheme is located on Unallocated Crown Land (excluded from the Juna Downs Pastoral Lease in July 2015) and proposed to be added to the conservation reserve system, due to the occurrence of the Coondewanna Flats (Priority 3(i)) and Lake Robinson (Priority 1) Priority Ecological Communities (PEC) (Parks and Wildlife, 2017).
Threatened Ecological Communities and Priority Ecological Communities	There are no Threatened Ecological Communities and PECs within the Premises. PEC: Coolibah (*Eucalyptus victrix*) woodlands over lignum (*Duma florulenta*) over swamp wandiree (Lake Robinson)* - Priority 1 is located approximately 1.3 km from the proposed premises boundary. PEC: Coolibah (*Eucalyptus victrix*) and mulga (*Acacia aneura*) woodland over lignum and tussock grasses on clay plains (Coondewanna Flats and Wanna Munna Flats)* - Priority 3(i) is located approximately 1 km from the proposed premises boundary. PEC: Weeli Wolli Spring community[1] – Priority 1 is located approximately 20 km east of the premises boundary.
Declared Rare Flora	There is no Declared Rare Flora within the Premises. *Lepidium catapycnon* (previously a Declared Rare Flora, now a Priority 4 Flora) is located within the Premises.

Note 1: Parks and Wildlife, 2016

The distances to groundwater and water sources are shown in Table 5.

Table 5: Groundwater and water sources

Groundwater and water sources	Distance from Premises	Environmental Value
Regional groundwater	BHP, 2016 states that the Juna Downs MAR scheme area lies within the Hamersley – Fractured Rock Aquifer; and Hamersley – Wittenoom Aquifer Reinjection activities will occur in the Hamersley – Wittenoom Aquifer Prior to the commencement of mining, groundwater at MAC was approximately 75 m below ground	The Wittenoom aquifer is distinguished as a separate aquifer system because the Wittenoom Dolomite is distinct from the other fractured rock aquifers in the Hamersley Basin, having karst development (solution cavities) and being overlain by a thick sequence of valley filled sediments consisting of pisolite, calcrete and alluvium. The Wittenoom Dolomite is the most important aquifer in the province and underlies the main valleys in the Hamersley Range; it is highly transmissive and high yielding where there

Groundwater and water sources	Distance from Premises	Environmental Value
	level (mbgl).	is karst development. Groundwater salinity (Total Dissolved Solids) is 500 – 1,000 mg/L, which is considered marginal (Department of Water, Salinity status classifications)
Coondewanna Flats	Coondewanna Flats is located south-west of the Premises and is the terminus of an internally draining catchment, which extends to the west and has an overall catchment area of approximately 86,000 ha The northern border of the Coondewanna Flats PEC is located more than 200 m from the project area, with the closest bore (HGSL0014) more than 900 m from the PEC	The hydrostratigraphy of Coondewanna Flats includes low to moderate permeability Tertiary detritals overlying an unconfined aquifer comprising calcrete and dolomite. The calcrete layer is extensive at a depth of about 16 to 20 mbgl. This is underlain by low to high permeability basement of the Wittenoom Formation. Groundwater level gradients across the Flats are low, however aquifer connectivity across the surface water catchment divide enables groundwater outflow into the Northern Flank (MAC) and Southern Flank valleys to the east Approximately 2,990 ha of Coondewanna Flats contains the listed PEC – Coolibah-lignum flats. The deep sediments of Coondewanna Flats are of key importance to this PEC as they provide significant inter-annual plant available water storage for the major tree species *Eucalyptus victrix* which adopts a drought avoidance strategy, by maintaining access to relatively moist soil throughout the year.
Rights in Water and Irrigation Act 1914	The Premises is located within the Proclaimed Pilbara Groundwater Area and Proclaimed Pilbara Surface Water Area	N/A
Watercourses	A number of unnamed perennial watercourses flow across the Juna Downs MAR scheme area	Creek systems in the area are ephemeral, flowing after rainfall events

Risk assessment

Tables 6 and 7 below describe the Risk Events associated with the construction and operation of the Juna Downs MAR Scheme consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to human health or the environment, requiring regulatory controls.

Table 6: 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**				
Category 6 *Mine dewatering*	Construction, mobilization and positioning of infrastructure associated with the Juna Downs MAR reinjection bores and pipework	**Dust**: associated with earthworks and vehicle movement	No sensitive receptors within 10 km	Air: Transport through air then transfer through respiratory system	Human health impacts – respiratory illness	Slight	Rare	Low	As there are no receptors present, the Delegated Officer considers that impacts on human health will be ***slight*** and would occur only in ***rare*** circumstances. The risk rating for dust impacts on human health from construction activities is therefore ***low***.
			Terrestrial vegetation near construction area	Air: Transport through air then disposition	Smothering and the potential to be deposited on vegetation which may prevent photosynthesis and plant respiration	Slight	Unlikely	Low	The Delegated Officer considers the natural dust tolerance of vegetation species and short-term nature of the construction activities should prevent vegetation impacts. There are also no Declared Rare or PECs within the Premises. The Delegated Officers considers the impacts on vegetation will be ***slight*** and ***unlikely*** to occur. The risk rating for dust impact to vegetation is therefore ***low***.
		Noise: associated with earthworks and vehicle movement	No sensitive receptors within 10 km	Air or other physical medium: Vibration of particles	Human health and amenity impacts	Slight	Rare	Low	As there are no receptors present, the Delegated Officer considers that impacts on human health and amenity will be ***slight*** and would occur only in ***rare*** circumstances. The risk rating for noise impacts on human health and amenity from construction activities is therefore ***low***.

Category 54 *Sewage facility*	Construction, mobilization, positioning and commissioning of irrigation infrastructure associated with the disposal of treated effluent to the spray field	**Dust:** associated with the laying of pipework, trenching and vehicle movement	Terrestrial vegetation in and near construction area	Air: Transport through air then disposition	Smothering and the potential to be deposited on vegetation which may prevent photosynthesis and plant respiration	Slight	Rare	Low	The Delegated Officer considers the natural dust tolerance of vegetation species and short-term nature of the construction activities should prevent vegetation impacts. There are also no Declared Rare or PECs within the Premises. The Delegated Officers considers the impacts on vegetation will be ***slight*** and ***rare*** to occur. The risk rating for dust impact to vegetation is therefore ***low***.
		Treated wastewater: associated with commissioning of the installed pipework between the WWTP and the spray field	No sensitive receptors within 10 km	Land	Human health impacts- ingestion or respiratory illness	Slight	Rare	Low	As there are no receptors present, the Delegated Officer considers that impacts on human health and amenity will be ***slight*** and would occur only in ***rare*** circumstances. The risk rating for impacts of any spills on human health and amenity from commissioning activities is therefore ***low***.
			Vegetation adjacent to pipelines in and near construction area	Land	Waterlogged soils, impacts to vegetation health depending on quality of water and volume discharged	Slight	Rare	Low	The Delegated Officer considers that due to the sparsity of the vegetation along the proposed pipeline corridor and spray field, in addition to the output volumes through the WWTP at the time of commissioning that the impacts to vegetation will be ***slight*** and would occur only in ***rare*** circumstances. The risk rating for impacts of any spills on nearby vegetation from commissioning activities is therefore ***low***.

			Surface water (Drainage line crossed by the pipeline corridor)	Over land to surface water	Nutrient enrichment of waterways or creek line vegetation	Slight	Rare	Low	The Delegated Officer considers that because the pipe will be protected and buried in a trench with sand bedding, the likelihood of overland flow from the pipeline significantly dispersing in the creek line is ***rare***. The volume of treated effluent form the WWTP during commissioning is also anticipated to be low and not significant enough to cause noticeable nutrient enrichment of the creek line vegetation. The consequence, should the spill occur is anticipated to be ***slight***. Therefore, the risk rating for impacts of any spills on nearby vegetation from commissioning activities is therefore ***low***.

Table 7: 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**				
Category 6 *Mine dewatering*	Reinjection bores	**Surplus water:** reinjected into the Hamersley – Wittenoom Aquifer	Vegetation and subterranean fauna	Reinjection to groundwater	Increase in groundwater levels and development of a groundwater mound, degradation of receiving aquifer groundwater quality impacting on beneficial uses of the aquifer, vegetation death	Moderate	Possible	Medium	BHP, 2016 states that the injection of groundwater into the Wittenoom aquifer system at Juna Downs will lead to an increase in groundwater levels and development of a groundwater mound. The Licensee has undertaken detailed studies of tree water use at Coondewanna Flats. Modelling of the impact of fluctuating groundwater levels at Coondewanna Flats caused by the Juna Downs MAR scheme concluded that: • Implementation of the Juna Downs MAR scheme is predicted to progressively increase groundwater levels underlying stands of *Eucalyptus victrix* trees at Coondewanna Flats. • Based on the predicted maximum extent of groundwater mounding, the lower portion of the root systems of some mature *Eucalyptus victrix t*rees could become exposed to groundwater for a period of time. In such cases tree water status (as measured by leaf water potential) may increase relative to unaffected trees, particularly during prolonged dry conditions. Where trees

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts				
									have sustained access to groundwater leaf area, tree water use and growth rates may increase. • The majority of *Eucalyptus victrix* root systems will remain unaffected; however pruning of deeper roots may occur if they are exposed to frequently saturated soils. The trees may reconfigure their root systems to some extent to exploit the groundwater resource. • At the conclusion of the operational phase of the Juna Downs MAR scheme (nominally after 18 years) groundwater levels will progressively decline. • Trees with root systems that were brought into connection with the groundwater system will become disconnected from groundwater. In such cases tree water status may decline during prolonged dry conditions; potentially associated with decreases in leaf area, tree water use and growth rates. More extreme adjustments including canopy die back are unlikely but possible, however the trees will gradually re-adjust to the surface driven hydrological regime. • *Acacia aptaneura* trees and understorey species will not be affected by the predicted changes in groundwater levels

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts				
									associated with the Juna Downs MAR scheme. An increase in groundwater levels as a result of reinjection may result in a loss of troglofauna habitat. The Licensee has stated that no restricted troglofauna species have been identified within the modelling zone. BHP, 2016 states that one restricted stygofauna species has been recorded within the modelled mounding zone, however it is unlikely that the reinjection of the surplus water will impact on this species as the surplus water to be reinjected at Juna Downs is of a similar quality to that of the receiving aquifer. The Delegated Officer has considered the location of the Juna Downs MAR scheme to the Coondewanna Flats, potential for increases in groundwater levels and the development of a groundwater mound from reinjection and determined that there will be low level off-site impacts on a local scale. Therefore, the Delegated Officer considers the consequence to be ***moderate***. The 6 reinjection bores (including the 2 yet to be installed and named) form the Juna Downs MAR scheme. As the Juna Downs MAR

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts				
									scheme will also be reinjecting groundwater into the Wittenoom aquifer, this will subsequently result in an increase in groundwater levels. The Delegated Officer has determined that the likelihood of an environmental impact on the Coondewanna Flats, in particular *Eucalyptus victrix,* may occur at some time. Therefore, the Delegated Officer considers the consequence to be ***possible***. The Delegated Officer has determined that the overall rating for risk from the operation of the Juna Downs MAR scheme (reinjection of surplus water) to be ***medium***.
Category 6 *Mine dewatering*	Dewatering pipelines	**Mine dewater:** discharged through pipeline leaks or ruptures	Vegetation adjacent to pipelines	Direct discharge to land	Waterlogged soils, impacts to vegetation health depending on quality of water and volume discharged	Slight	Unlikely	Low	Groundwater salinity (total dissolved solids) is 500 – 1,000 mg/L, which is considered marginal (Department of Water, Salinity status classifications). The Licensee will detect leaks in pipelines by reconciling mass balance between input and outputs. Flowmeters are located on input and output locations and used to identify potential losses from the system. The Licensee does not consider the dewater pipelines to be high risk and will not be incorporating pressure sensors. The Delegated Officer notes that the pipelines will be conveying excess mine dewater with an anticipated total dissolved solid

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts				
									concentration of 500 – 1,000 mg/L. The Delegated Officer has considered the anticipated quality of mine dewater reinjected at the Juna Downs MAR scheme and proposed leak detection system, and determined that there will be minimal on-site impacts to vegetation as a result of a pipeline leak/rupture. Therefore, the Delegated Officer considers the consequence to be ***slight.*** The Delegated Officer has determined that the likelihood of an environmental impact as a result of a pipeline rupture/leak will probably not occur in most circumstances. Therefore, the Delegated Officer considers the consequence to be ***unlikely***. The Delegated Officer has determined that the overall rating for risk from the operation of the Juna Downs MAR scheme pipelines to be ***low***.
Category 54 *Sewage facility*	Operation of the WWTP spray field and associated pipe lines	**Treated wastewater**	Vegetation adjacent to pipelines	Direct discharge to land	Waterlogged soils, impacts to vegetation health depending on quality of water and volume discharged, weeds	Slight	Rare	Low	The Delegated Officer considers that due to the sparsity of the vegetation along the proposed pipeline corridor and spray field, that the impacts to vegetation will be ***slight*** and would occur only in ***rare*** circumstances. The risk rating for impacts of any spills on nearby vegetation from operational activities is therefore

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities		Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts				
									low.
			Surface water (Drainage line crossed by the pipeline corridor)	Direct discharge to water	Nutrient enrichment of waterways or creek line vegetation	Slight	Rare	Low	The Delegated Officer considers that because the pipe work crossing the drainage line will be protected and buried in a trench with sand bedding, the likelihood of overland flow from the pipeline significantly dispersing in the creek line is ***rare***. The consequence, should the spill occur is anticipated to be ***slight***. Therefore, the risk rating for impacts of any spills on nearby vegetation from commissioning activities is therefore ***low***.
Category 63 Inert waste disposal	Increase in inert waste disposal	**Inert waste, windblown waste**	Adjacent vegetation	Direct discharge to land	Visual amenity, impacts to flora and fauna	Slight	Rare	Low	The Delegated Officer considers that due to the effective operation of the existing landfill, the waste being inert only, and the existing conditions within the licence that any discharge should be ***rare***. Further impacts from additional waste deposited leaving the landfill would be ***slight*** due to the inert nature and management measures in the existing licence. The Delegated Officer therefore considers the subsequent risk rating to be ***low***.

Decision

Juna Downs MAR Scheme

The Licensee has current obligations under Part IV of the EP Act (MS 491 and EMP, Rev 6). Condition 5 of MS 491 provides an outcome based condition that requires abstraction activities to be managed to ensure there are minimal adverse impacts on groundwater dependent ecology at Weeli Wolli Springs and Coondewanna Flats. EMP, Rev 6 is required in accordance with Condition 7 and Licensee commitments 1, 2 and 3 of MS 491.

In March 2014, water usage and dewatering requirements were removed from MS 491 as conservation values are managed under the EMP, Rev 6; *"dewatering and discharge can be managed under other legislation"*.

Based on the application supporting documentation, the Delegated Officer has determined that the construction and operation of the Juna Downs MAR scheme will not result in emissions which are unacceptable to public health or the environment.

Existing licence Condition 1.2.10 has been updated for Category 6 to include the Juna Downs MAR scheme.

The Licensee has committed to constructing the Juna Downs MAR scheme to the specifications provided in BHP, 2016. Conditions 1.2.12 and 1.2.13 have been amended to include the specific design and construction specifications for the Juna Downs MAR scheme and to allow for minor derivations from the design and construction specifications where appropriate. Condition 4.3.1 has been updated to ensure any departures from Conditions 1.2.12 and 1.2.13 are notified to the CEO of DWER.

The inclusion of Condition 1.2.16 allows for the operation of the Juna Downs MAR scheme following submission of the compliance documentation. The requirement to submit compliance documentation to the CEO of DWER following construction of the Juna Downs MAR scheme has been implemented via Condition 4.3.1.

The Juna Downs MAR scheme will utilise four injection bores (HGSL0005, HGSL0006, HGSL0014, HGSL0015), which have already been drilled and two additional injection bores (HGSL0016 and HGSL0017) which will require specific compliance reporting prior to operation. This Amendment Notice allows the construction of injection head works for these four bores HGSL0005, HGSL0006, HGSL0014 and HGSL0015 (Condition 1.2.13). Condition 2.2.1 has also been updated to include HGSL0005, HGSL0006, HGSL0014 and HGSL0015 as emission points to groundwater.

Conditions 2.2.2 and 2.2.3 have been updated to include bores HGSL0005, HGSL0006, HGSL0014 and HGSL0015.

Condition 2.2.2 now includes a depth to groundwater level limit of "not less than 7 m below ground surface" for HGSL0005, HGSL0006, HGSL0014 and HGSL0015. This limit is based on studies of tree water use at Coondewanna Flats undertaken by the Licensee, which suggests that at Coondewanna Flats, the roots systems of mature *Eucalyptus victrix* trees may extend up to approximately 15 m below the surface, whilst those of *Acacia aptaneura* and *Duma florulenta* are confined to the upper 5 m of the profile. The Delegated Officer considers that this limit will ensure groundwater at the injection borefield does not interact with the roots of *Acacia* species within Coondewanna Flats.

Condition 3.2.1 has been updated to include bores HGSL0005, HGSL0006, HGSL0014 and HGSL0015 for the monitoring of point source emissions to groundwater. This condition has existing monitoring requirements for the Deposit A MAR. As the Juna Downs MAR scheme will be reinjecting into the same aquifer as the Deposit A MAR (Wittenoom aquifer) the Delegated Officer considers that the same parameters are considered appropriate.

The Licensee has developed an adaptive management approach to manage the potential

impacts from the operation of the Juna Downs MAR scheme on the Coondewanna Flat PEC as shown in Table 8.

Table 8: Proposed Adaptive Management Response (BHP, 2016)

			Monitoring and Management Values	
Receptor	**Aspect**	**Investigate (early warning trigger)**	**Action (trigger)**	**Mitigate (threshold)**
Coondewanna Flats	Groundwater Level	Groundwater level rises to 17 mbgl at monitoring bore GWB0039M	Groundwater level rises to 15 mbgl at any of the following monitoring bores: • GWB0039M • HCF0032M • HCF0044M • HCF0045M	Groundwater level rises to 7 mbgl (or other level to be determined during Action Stage) at any of the following monitoring bores: • GWB0039M • HCF0032M • HCF0044M • HCF0045M
	Vegetation Health	N/A	N/A	Sustained canopy decline (defined as Crown Condition Score below baseline for 3 or more consecutive measurement events, or as determined during Action Stage) or death of any monitored tree

Conditions 3.5.1 and 3.5.2 for ambient groundwater limits and groundwater quality have been updated to include monitoring points GWB0039M, HCF0032M, HCF0044M and HCF0045M, which are the four monitoring bores associated with the Juna Downs MAR scheme.

Condition 3.5.1 has an existing groundwater limit for TDS of not less than 750 mg/L. This limit has been applied to GWB0039M, HCF0032M, HCF0044M and HCF0045M. A depth to groundwater level limit of “not less than 7 mbgl” for GWB0039M, HCF0032M, HCF0044M and HCF0045M has also been applied to Condition 3.5.1 as per Table 8 (mitigate – threshold).

Condition 3.5.2 has been updated to include GWB0039M, HCF0032M, HCF0044M and HCF0045M and a depth to groundwater level trigger of “not less than 15 mbgl” (as per Table 8). This trigger level corresponds to the point at which groundwater levels could interact with the roots of *Eucalyptus victrix*.

Condition 3.5.3 has been updated to ensure that the measuring of groundwater level is undertaken daily for GWB0039M, HCF0032M, HCF0044M and HCF0045M. If the groundwater trigger level stipulated in Condition 3.5.2 is exceeded the Licensee is required to undertake six monthly measurements of Leaf Water Potential at monitoring sites 12, 15 and 20 (in addition to ongoing Crown Condition Score and Diameter at Breast Height) to determine response of tree water use to elevated groundwater levels. The Delegated Officer considers this acceptable as the Licensee has stated that the first three years of the Leaf Water Potential data will then be used to establish new Ecological Rehydration Index baseline. If the subsequent Ecological Rehydration Index data shows increasing plant available water, investigate potential factors to determine the cause and if the change is attributable to the reinjection activities, the Licensee’s measures will be instigated to limit potential negative impacts on tree health based on conceptual model of ecosystem response.

Increase in Category 63 capacity

The Delegated Officer considers that the increase in capacity for Category 63 to allow additional Inert Waste Type 1 and Inert Waste Type 2 in accordance with the *Landfill Waste Classification and Waste Definitions 1996* to be acceptable and disposal at the existing inert landfill presents a low risk to human health and the environment. Condition 1.2.2 of the Licence has been amended by this Notice.

The Delegated Officer notes that Inert Waste Type 1 and Inert Waste Type 2 will be processed and covered as per Conditions 1.2.4 and 1.2.6 of the existing Licence.

Include the light vehicle washdown bay and associated monitoring points

The Delegated Officer notes that existing Condition 2.3.1 (L4 to L6) for treated wastewater from heavy vehicle washdown bays and workshop oily water separators, allows for the discharge of treated wastewater from overflow of the evaporation ponds during extreme rainfall events and during scheduled maintenance. Condition 3.3.1 currently requires a quarterly sample to be taken from the discharge overflow point of the evaporation pond and L5/L6 sample point and have analysed for total recoverable hydrocarbons (TRH).

The Delegated Officer considers the change to include the light vehicle washdown bay in Condition 2.3.1 presents a low risk to the environment. The Delegated Officer also notes that an emission limit of 15 mg/L for TRH (L4 to L6) is on the existing licence (Condition 2.3.2). Conditions 1.2.11 (containment infrastructure) and 2.3.1 have been amended via this Notice to include the light vehicle washdown bay.

Expansion of the premises boundary

The Delegated Officer considers the update to the premises boundary to be required to ensure the licence is enforceable. The Premises map and Map of emission points and monitoring locations have been amended via this Notice.

Construction of a new 3.047ha spray field and ~2km of pipeline

As there will be no changes to the existing Mulla Mulla Camp WWTP or treated effluent sampling location, with the exception of some new tie-in pipelines and no surrounding environmental or public receptors present, the Delegated Officer considers the construction and proposed operation of the new spray field to present a low risk to human health and the environment. No additional regulatory controls have been added to the licence for the construction and operation of the new spray field and pipelines.

Other amendments

DWER is also implementing changes to update the Licence in accordance with recent administrative changes. During this amendment definitions for 'Anniversary Date', 'MAR' and 'six monthly' have been added and updates have been made to the definition of 'Annual Audit Compliance Report', 'Annual Period' and 'Department'.

The following conditions have also been updated during this amendment:

- Condition 3.1.2 to stipulate that six monthly monitoring should be undertaken at least 5 months apart. This is based on the inclusion in Table 3.5.3 – Monitoring following groundwater level exceedance; and
- Condition 4.1.2 updated to indicate when the Annual Audit Compliance Report is required to be submitted.

Amendment History

Table 9 provides the amendment history for L7851/2002/6.

Table 9: Licence amendments

Instrument	Issued	Amendment
L7851/2002/6	17/11/2014	Licence reissue and amendment to new format template
L7851/2002/6	22/01/2014	Minor amendment
L7851/2002/6	7/04/2016	Licence amendment to update to template version 2.9
L7851/2002/6	29/09/2016	Licence amendment initiated by Licensee to increase Category 6 production capacity, approve construction of the Packsaddle Infiltration Ponds and MAC WTP, include Category 85B and include the Western and Central Sediment Basins as emission points to land
L7851/2002/6	5/10/2017	Amendment Notice 1 (this Notice) Licence amendment initiated by Licensee to increase Category 6 and Category 63 production capacity, approve construction of the Juna Downs MAR Scheme, approve construction and operation of a new WWTP spray field for the Mulla Mulla Camp and include associated monitoring conditions, include the light vehicle washdown bay as emission point to land along with associated monitoring conditions and expand the premises boundary

Licensee's Comments

The Licensee was provided with an updated draft Amendment Notice on 26 September 2017. Comments received from the Licensee have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

1. Page 1 of the licence is amended by the deletion of the text shown in strikethrough and insertion of the bold text shown in underline below:

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: premises on which – (a) Metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) Tailings from metallic or non-metallic ore are reprocessed; or Tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	50,000 tonnes or more per year	65,000,000 tonnes per **A**~~a~~nnual **P**~~p~~eriod
6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	50,000 tonnes or more per year	~~27,541,000~~ **34,931,000** tonnes per **A**~~a~~nnual **P**~~p~~eriod
54	Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) From which treated sewage is discharged onto land or into waters.	100 m^3 or more per day	480 m^3 per day
63	Class I inert landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	500 tonnes or more per year	~~5,000~~ **9,000** tonnes per **A**~~a~~nnual **P**~~p~~eriod
73	Bulk storage of chemicals etc.: premises on which acids, alkalis or chemicals that – (a) contain at least one carbon to carbon bond; and (b) Are liquid at STP (standard temperature and pressure), are stored.	1 000 m^3 in aggregate	3 500 m^3 in aggregate
85B	Water desalinisation plant: premises at which salt is extracted from water if waste water is discharged onto land or into waters (other than marine waters)	0.50 gigalitres or more per year	0.9125 gigalitres per **A**~~a~~nnual **P**~~p~~eriod
89	Putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer, as amended from time to time) is accepted for burial.	More than 20 but less than 5 000 tonnes per year	3 000 tonnes per **A**~~a~~nnual **P**~~p~~eriod

2. The licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below for section 1.1.2:

'Anniversary Date' means 1 July of each year;

'~~Compliance Report~~ Annual Audit Compliance Report' *means a 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;*

'A~~a~~nnual P~~p~~eriod' *means* ***a 12 month*** *~~the inclusive~~ period* ***commencing*** *from 1 July until 30 June in the following year;*

'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;

'MAR' means Managed Aquifer Recharge;

'six monthly' means the 2 inclusive periods from 1 July to 31 December and 1 January to 30 June in the following year;

3. Condition 1.2.2 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

1.2.2 The Licensee shall only accept waste onto the inert landfill, putrescible landfills, Rubber/Tyre Dump and sewage treatment plants, shown on the maps in Schedule 1, 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	*~~5 000~~* ***9 000*** *tonnes/year*	*None specified*
Inert Waste Type 2		*Tyres, rubber and plastic only*
Putrescible Waste	*3 000 tonnes/year*	*None specified*
Clean Fill		*None specified*
Sewage	*480 m^3/day*	*Accepted through sewer inflow(s) only.* *Packsaddle WWTP Pond System, flow recorded as inflow* *All Biomax WWTPs, flow recorded at outflow*

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.

4. Condition 1.2.10 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

1.2.10 The Licensee shall ensure the limits specified in Table 1.2.4 are not exceeded.

Table 1.2.4 Production or design capacity limits		
Category [3]	***Category description*** [1]	***Premises production or design capacity limit***
5	*Processing or beneficiation of metallic or non-metallic ore*	*65,000,000 tonnes of ore per annual period*
6	*Mine dewatering*	*~~27,541,000~~* ***34,931,000*** *tonnes per* ***Annual Period*** *~~annum~~ total, being:* • *5,840,000 tonnes per* ***A****~~a~~nnual* ***P****~~p~~eriod* ***(****reinject****ion****~~ed~~*** ***– Deposit A)*** • *2,081,000 tonnes per* ***A****~~a~~nnual* ***P****~~p~~eriod* ***(****discharged to the Western Sediment Basin****)*** • *~~8,670,000~~* ***8,760,000*** *tonnes per* ***A****~~a~~nnual* ***P****~~p~~eriod* ***(****discharged to the Central Sediment Basin****)*** • *10,950,000 tonnes per* ***A****~~a~~nnual* ***P****~~p~~eriod* ***(****discharged to the Packsaddle Infiltration Ponds****)*** • ***7,300,000 tonnes per Annual Period (reinjection – Juna Downs)***
73	*Bulk storage of chemicals, etc*	*3,500 cubic metres in aggregate*
85B	*Water desalinisation plant*	*0.9125 gigalitres per* ***A****~~a~~nnual* ***P****~~p~~eriod*

Note 1: Environmental Protection Regulations 1987, Schedule 1.

5. Condition 1.2.11 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

1.2.11 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds listed in Table 1.2.5 and identified in Schedule 1 in accordance with the requirements specified within Table 1.2.5.

Table 1.2.5: Containment Infrastructure		
Storage vessel or compound	***Material***	***Requirements***
Packsaddle evaporation/infiltration ponds (L1 and L2)	*250 m^3/day of effluent from the Packsaddle Village Closed pond system (L1)* *80 m^3/day of effluent from the Packsaddle Biomax (L2)*	• *minimum vertical freeboard of 300 mm except during a 72 hour duration, ten year annual recurrence interval storm event*
~~*Oily Water Separator Treated Wastewater Ponds*~~ ***Treated Oily Water Ponds***	*Treated wastewater from* ***heavy vehicle*** ~~*HV*~~ *washdown bays, workshop oily water separators* ***and untreated water from the light vehicle wash down bay***	• *1.5 mm HDPE lined evaporation pond to achieve a permeability of $<10^{-9}$ m/s*
Western Sediment Basin	*Mine dewater*	• *minimum vertical freeboard of 300 mm except during a 72 hour duration, ten year annual recurrence interval storm event*
Packsaddle Infiltration Ponds (L8-L10)	*Mine dewater*	• *minimum vertical freeboard of 300 mm except during a 72 hour duration, ten year annual recurrence interval storm event* • *high water level alarm installed and maintained on each pond*

6. Condition 1.2.13 of the licence is amended by the insertion of the bold text shown in underline below:

1.2.13 The Licensee must not depart from the specifications in Column 1 and 2 for the infrastructure in each row of Table 1.2.7 except:
a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment; and is in accordance with all other conditions of this Licence.

Table 1.2.7: Infrastructure to be constructed	
Infrastructure	***Specifications (design and construction)***
Packsaddle Infiltration Ponds	
1) Pond construction	• *Three infiltration ponds, 80 metres wide, 500 metres long, 0.5 metres in depth, each pond comprising of four basins* • *High level alarms installed on each pond*

	• *Stock proof fencing erected around perimeter of each pond*
2) Water conveyance	*Polyethylene pipeline approximately 7 kilometres in length from the E Deposit Turkey's Nest to convey excess mine dewater to the infiltration ponds, using diesel pumps*
3) Groundwater monitoring	*Installation of groundwater monitoring bore MB1*
Mining Area C Water Treatment Plant	
1) Water treatment plant	*Installation of a nano-filtration water treatment plant, in two stages:* • *Stage1: Construction of a 0.584 gigalitre per annum water treatment plant; and* • *Stage 2: Expansion of the Stage 1 facility to a 0.9125 gigalitre per annum water treatment plant.* *Water treatment plant to comprise of:* • *Two raw water tanks, Tank A and Tank B;* • *Two Waste tanks, TK1000A and TK10000B;* • *Two chlorination buildings;* • *Five nano-filtration trains;* • *Multimedia filters;* • *Building to contain sulphuric acid, antiscalant, sodium metasulphate, ferric chloride and sodium hydroxide;* • *One chlorine contact tank, CCT100000;* • *Two product water tanks, TK10005A and TK10005B;* • *Control room and laboratory.*
2) Irrigation area	• *Construction of a 7.4 hectare irrigation area, comprising of Wobbler xcel 4.76 millimetres sprays.* • *Stock proof fencing erected around perimeter of irrigation area*
Juna Downs MAR scheme	
1) Reinjection bores	• ***Construction of injection bores with flow meters installed; HGSL0005, HGSL0006, HGSL0014 and HGSL0015 as per location on Attachment 1 of this Amendment Notice;*** • ***Construction of two additional bores named HGSL0016 and HGSL0017 (including flowmeters) located within the green area demarcated 'Indicative Area for New Bore' as per Attachment 1 of this Amendment Notice***
Water conveyance	***Approximately 22 km of polyethylene pipe***
Mulla Mulla Camp WWTP sprayfield	
1)	***Spray irrigation heads: 24 sprinklers at ~34m spacing***
2)	***Perimeter fencing for an area of 3.047ha***
3)	***110dia HDPE, PE100 PN12.5 pipework, protected and buried in a trench with sand bedding with a depth of cover of 900mm in areas subject to vehicular traffic and 750mm in areas not subject to vehicular traffic.***

8. The licence is amended by the inclusion of Condition 1.2.16 shown in bold text with underline below.

1.2.16 The Licensee shall operate the Juna Downs MAR scheme in accordance with the conditions of this Licence, following submission of the compliance document required under condition 4.3.1.

9. Condition 2.2.1 of the licence is amended by the insertion of the bold text shown in underline below:

2.2.1 The Licensee shall ensure that where waste is emitted to groundwater 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 groundwater		
Emission point reference and location on Map of emission points	***Description***	***Source including abatement***
HGA0001P *HGA0002P* *HGA0040P* *HGA0041P*	*Direct injection below ground*	*Water from dewatering associated with the Managed Aquifer Recharge Trial*
HGSL0005 ***HGSL0006*** ***HGSL0014*** ***HGSL0015*** ***Bores HGSL0016 and HGSL0017[1]***	***Direct injection below ground***	***Water from surplus mine dewatering***

Note 1: Following compliance provided as per condition 4.3.1

10. Condition 2.2.2 of the licence is amended by the insertion of the bold text shown in underline below:

2.2.2 The Licensee shall not cause or allow point source emissions to exceed the limits listed in Table 2.2.2.

Table 2.2.2: Point source emission limits to groundwater			
Emission point reference	***Parameter***	***Limit (including units)***	***Averaging period***
HGA0001P *HGA0002P* *HGA0040P* *HGA0041P*	*Depth to groundwater*	*Not less than 10m below ground surface*	*Spot sample*
HGSL0005 ***HGSL0006*** ***HGSL0014*** ***HGSL0015*** ***Bores HGSL0016 and HGSL0017[1]***		***Not less than 7m below ground surface***	

Note 1: Following compliance provided as per condition 4.3.1

11. Condition 2.2.3 of the licence is amended by the insertion of the bold text shown in underline below:

2.2.3 The Licensee shall take the specified management action in the case of an event in Table 2.2.3.

Table 2.2.3: Management actions			
Emission point reference	***Event/ action reference***	***Event***	***Management action***
HGA0001P *HGA0002P* *HGA0040P* *HGA0041P* ***HGSL0005*** ***HGSL0006*** ***HGSL0014*** ***HGSL0015*** ***Bores HGSL0016 and HGSL0017***[1]	*EA1*	*Any time the monitoring data indicates an exceedance of the limit specified in condition 2.2.2*	*The Licensee shall cease direct injection at the emission point listed in Table 2.2.1 where the limit exceedance occurred*

Note 1: Following compliance provided as per condition 4.3.1

12. Condition 2.3.1 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

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	***Description***	***Source including abatement***
L1	*Discharge of treated wastewater from Packsaddle Village C150K WWTP to designated unlined evaporation/infiltration pond*	*Treated wastewater from Packsaddle Village C150K WWTP*
L2	*Discharge of treated wastewater from Packsaddle Village WWTP to unlined evaporation/infiltration pond* ~~*Discharge of treated*~~	*Treated wastewater from Packsaddle Village WWTP ponds*
L3	*Discharge of treated wastewater from Mulla Mulla Camp C300K WWTP to designated irrigation area*	*Treated wastewater pipeline from Mulla Mulla Camp C300K WWTP*
L4	*Discharge of treated wastewater from overflow of evaporation ponds during extreme rainfall events*	*Treated wastewater from* ***heavy vehicle*** ~~*HV*~~ *washdown bays,* ~~*and*~~ *workshop oily water separators* ***and untreated wastewater from the light vehicle washdown bay***
L5		
L6	*Discharge of treated wastewater to undertake scheduled maintenance of ponds*	
L7	*Discharge of reject water from the Mining Area C Water Treatment Plant to designated irrigation area*	*Reject water from the Mining Area C Water Treatment Plant*
L8	*Discharge of excess mine dewater to the Packsaddle Infiltration ponds*	*Mine dewater*
L9		
L10		
L11	*Discharge of excess mine dewater to the Western Sediment Basin*	*Mine dewater*
L12	*Discharge of excess mine dewater to the Central Sediment Basin*	*Mine dewater*

13. Condition 3.1.2 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

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**; and

***(c)** **six monthly monitoring is undertaken at least 5 months apart**.*

14. Condition of the licence is amended by the insertion of the bold text shown in underline below:

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 groundwater				
Emission point reference[1]	***Parameter***	***Units***	***Averaging period***	***Frequency***
HGA0001P *HGA0002P* *HGA0040P* *HGA0041P* ***HGSL0005*** ***HGSL0006*** ***HGSL0014*** ***HGSL0015*** ***Bores HGSL0016 and HGSL0017[3]***	*Cumulative Volume*	*m^3/day*	*Spot Sample*	*Monthly*
	Electrical Conductivity[2]	*µS/cm*		
	pH[2]	*pH Units*		
	Groundwater level	*mbgl*		
	Aluminium	*mg/L*	*Spot sample*	*Quarterly*
	Arsenic			
	Barium			
	Boron			
	Calcium Carbonate			
	Cadmium			
	Calcium			
	Chloride			
	Chromium			
	Copper			
	Fluoride			
	Iron			
	Lead			
	Magnesium			
	Manganese			
	Mercury			
	Molybdenum			
	Nickel			
	Nitrate			
	Potassium			
	Selenium			
	Sodium			
	Sulfate			
	Total Dissolved Solids			
	Zinc			

Note 1: pH, electrical conductivity and hydrochemistry samples are only required to be taken from one emission point during each quarterly monitoring event and only emission points that are active in the monitoring period are required to be sampled.

Note 2: In-field non-NATA accredited analysis permitted.

Note 3: Following compliance provided as per condition 4.3.1

15. Condition 3.3.1 of the licence is amended by the deletion of the strikethrough and insertion of the bold text shown in underline 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 emissions to land					
Emission point reference	***Monitoring point location***	***Parameter***	***Units***	***Averaging Period***	***Frequency***
L1 – L3	*Flow meter to irrigation area or evaporation / infiltration pond*	*Volumetric flow rate (cumulative)*	*m^3/day*	*Monthly*	*Continuous*
	Final storage tank - prior to discharge to emission points	*pH[1]*	*pH units*	*Spot sample*	*Quarterly*
		5-Day Biochemical Oxygen Demand	*mg/L*		
		Total Suspended Solids			
		Total Nitrogen			
		Total Phosphorus			
		E.coli	*cfu/100mL*		
L4	*Discharge overflow point from evaporation pond*	*Total Recoverable Hydrocarbons*	*mg/L*	*Spot sample*	*Quarterly ~~while discharging~~*
L5 ~~and L6~~	***~~L5/L6 sample point~~ HV washdown discharge overflow point***				*Quarterly*
L6	***Secondary HV washdown discharge overflow point***				
L7	*Flow meter to irrigation area*	*Volumetric flow rate (cumulative)*	*m^3/day*	*Quarterly*	*Continuous*
	Final storage tank – prior to discharge emission point	*Total Dissolved Solids*	*mg/L*	*Spot sample*	*Quarterly*
L8 to L12	*At the trunk line prior to the infiltration/sediment basin*	*Volumetric flow rate (cumulative)*	*m^3/day*	*Quarterly*	*Continuous*
		pH[1]		*Spot sample*	*Quarterly*
		Electrical Conductivity[1]	*µS/cm*		
		Aluminium	*mg/L*		
		Arsenic	*mg/L*		
		Barium	*mg/L*		
		Boron	*mg/L*		
		Calcium Carbonate	*mg/L*		
		Cadmium	*mg/L*		
		Calcium	*mg/L*		
		Chloride	*mg/L*		
		Chromium	*mg/L*		
		Copper	*mg/L*		
		Fluoride	*mg/L*		
		Iron	*mg/L*		
		Lead	*mg/L*		

Table 3.3.1: Monitoring of emissions to land					
		Magnesium	*mg/L*		
		Manganese	*mg/L*		
		Mercury	*mg/L*		
		Molybdenum	*mg/L*		
		Nickel	*mg/L*		
		Nitrate	*mg/L*		
		Potassium	*mg/L*		
		Selenium	*mg/L*		
		Sodium	*mg/L*		
		Sulfate	*mg/L*		
		Total Dissolved Solids	*mg/L*		
		Zinc	*mg/L*		

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

16. Condition 3.5.1 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

3.5.1 The Licensee shall not cause or allow exceedance of the ambient groundwater limits listed in Table 3.5.1.

Table 3.5.1: Ambient groundwater limits				
Monitoring point reference & location	***Parameter***	***Limit***	***Averaging period***	***Frequency***
GAOB07RM *GWB0025M* *HGA0003P* *HGA0066M* ~~(Mine dewater reinjection)~~ ***GWB0039M*** ***HCF0032M*** ***HCF0044M*** ***HCF0045M***	*Total Dissolved Solids*	*≤750mg/L*	*Spot Sample*	*Quarterly*
HPSA1633 (Packsaddle Infiltration Ponds)	*Standing water level*	*≤ 8**mbgl** ~~metres below ground level~~*	*Spot sample*	*Monthly*
GWB0039M ***HCF0032M*** ***HCF0044M*** ***HCF0045M***	***Depth to groundwater***	***≤ 7mbgl***		

17. Condition 3.5.2 of the licence is amended by insertion of the bold text shown in underline below:

3.5.2 The Licensee shall undertake the monitoring in Table 3.5.2 according to the specifications in that Table.

Table 3.5.2: Monitoring of ambient groundwater quality					
Monitoring point reference	***Parameter***	***Trigger***	***Units***	***Averaging period***	***Frequency***
GAOB05RM *HGA0038M*	*Groundwater Level*	*≤ 12*	*mbgl*	*Spot Sample*	*Monthly*
GAOB07RM *GWB0025M* *HGA0003P* *HGA0066M*	*Depth to Groundwater Level*	*≤ 12*	*mbgl*	*Spot Sample*	*Monthly*
GWB0039M ***HCF0032M*** ***HCF0044M*** ***HCF0045M***		***≤ 15***			
HPSA1633		*≤ 13*			
GAOB07RM *GWB0025M* *HGA0003P* *HGA0066M* *HPSA1633*	*Electrical Conductivity[1]*	*-*	*µS/cm*	*Spot Sample*	*Quarterly*
	pH[1]	*-*	*pH Units*		
	Aluminium	*-*	*mg/L*	*Spot sample*	*Quarterly*
	Arsenic	*-*			
	Barium	*-*			
	Boron	*-*			
	Calcium Carbonate	*-*			
	Cadmium	*-*			

Table 3.5.2: Monitoring of ambient groundwater quality					
	Calcium	-			
	Chlorine	-			
	Chromium	-			
	Copper	-			
	Fluoride	-			
	Iron	-			
	Lead	-			
	Magnesium	-			
	Manganese	-			
	Mercury	-			
	Molybdenum	-			
	Nickel	-			
	Nitrate	-			
	Potassium	-			
	Selenium	-			
	Sodium	-			
	Sulfate	-			
	Total Dissolved Solids	-			
	Zinc	-			

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

18. Condition 3.5.3 of the licence is amended by the insertion of the bold text shown in underline below:

3.5.3 The Licensee shall implement ambient environmental quality monitoring detailed in Table 3.5.3 if the depth to groundwater level specified in Table 3.5.2 in the relevant monitoring bores specified in Table 3.5.2 is exceeded.

Table 3.5.3: Monitoring following groundwater level exceedance			
Emission point reference	***Parameter***	***Units***	***Frequency***
GWB0025M *HGA0003P* *GAOB07RM* *HGA0066M* ***GWB0039M*** ***HCF0032M*** ***HCF0044M*** ***HCF0045M***	*Groundwater level*	*mbgl*	*Daily*
GWB0025M *HGA0003P* *GAOB07RM* *HGA0066M*	*Visual assessment of surrounding vegetation (GWB0025M, HGA0003P, GAOB07RM, HGA0066M)* *Vegetation monitoring in the vicinity of the event comprising 5 to 10 trees of a variety of species to be photographed and an assessment of each consisting of:* o *Tree moisture;* o *Foliage cover;* o *New growth; and* o *Flowering status.*	-	*Vegetation monitoring will continue for two weeks after water levels have receded to below target level*
GWB0039M ***HCF0032M*** ***HCF0044M*** ***HCF0045M***	***Measurement of Leaf Water Potential at monitoring sites 12, 15 and 20 (in addition to ongoing Crown Condition Score and Diameter at Breast Height) to determine the response of tree water use to elevated groundwater levels***	***-***	***Six monthly***

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

19. Condition 4.1.2 of the licence is amended by the deletion of the text shown in

strikethrough and the insertion of the bold text shown in underline below:

5.1.2 The Licensee must submit ~~a~~ ***to the CEO within 90 days after the Anniversary Date, an Annual Audit*** *Compliance Report indicating the extent to which the Licensee has complied with the conditions* in this *Licence for the Annual Period.*

20. Condition 4.3.1 of the licence is amended by the deletion of the text shown in strikethrough and the insertion of the bold text shown in underline below:

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]***
1.2.12	*The Licensee shall, prior to commencing commissioning of the Mining Area C Water Treatment Plant, submit a commissioning plan to the CEO. The commissioning plan shall include details relating to:* *(a) the commissioning stages and expected timescales for commissioning;* *(b) expected emissions and discharges during commissioning and the environmental implications of the emissions;* *(c) how emissions and discharges will be managed during commissioning;* *(d) the monitoring that will be undertaken during the commissioning period;* *(e) how accidents or malfunctions will be managed;* *(f) start up and shut down procedures; and* *(g) reporting proposals including accidents, malfunctions and reporting against the commissioning plan.* *Commissioning shall be carried out in accordance with the commissioning plan.*	*Four weeks prior to the commencement of commissioning.*	*None specified*
1.2.12 *1.2.13* *1.2.14* ***1.2.16***	*The Licensee shall submit compliance documentation to the CEO, following construction of each of the Packsaddle Infiltration Ponds****,*** ~~*and*~~ *Mining Area C Water Treatment Plant* ***and the Juna Downs MAR scheme,*** *and prior to commissioning of the same.* ***The Licensee must ensure compliance documentation*** ~~*The compliance document shall:*~~ *a)* ***is*** *certif****ied***~~*y*~~ ***by a suitably qualified professional engineer or builder stating that each item of infrastructure specified in Table***	*Within 7 days of the completion of construction*	*None specified*

Table 4.3.1: Notification requirements			
	1.2.7 has been constructed in accordance with the conditions of the Licence with no material defects ~~*that the works were constructed in accordance with the documents 'Mining Area C L7851/2002/6 – Licence Amendment Supporting Documentation (BHP Billiton, April 2016)*~~*; 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*		
1.2.12 ***1.2.13*** ***1.2.16***	***The Licensee shall submit to the CEO, as part of the compliance document for the 2 new Juna Downs MAR scheme bores HGSL0016 and HGSL0017:*** ***a) written GPS locations of the 2 bores confirming the bores are within the area specified in Attachment 1.***	***Within 7 days of the completion of construction***	***None specified***
1.2.13	***If condition 1.2.13 applies, then the Licensee must provide the CEO with a list of departures which are certified as complying with condition 1.2.12***	***Within 7 days of the completion of construction***	***None specified***
Tables 1.2.1, 1.2.4, 2.2.2, 2.3.2, 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*
3.5.2	*Depth to groundwater level exceedance*		
3.1.4	*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

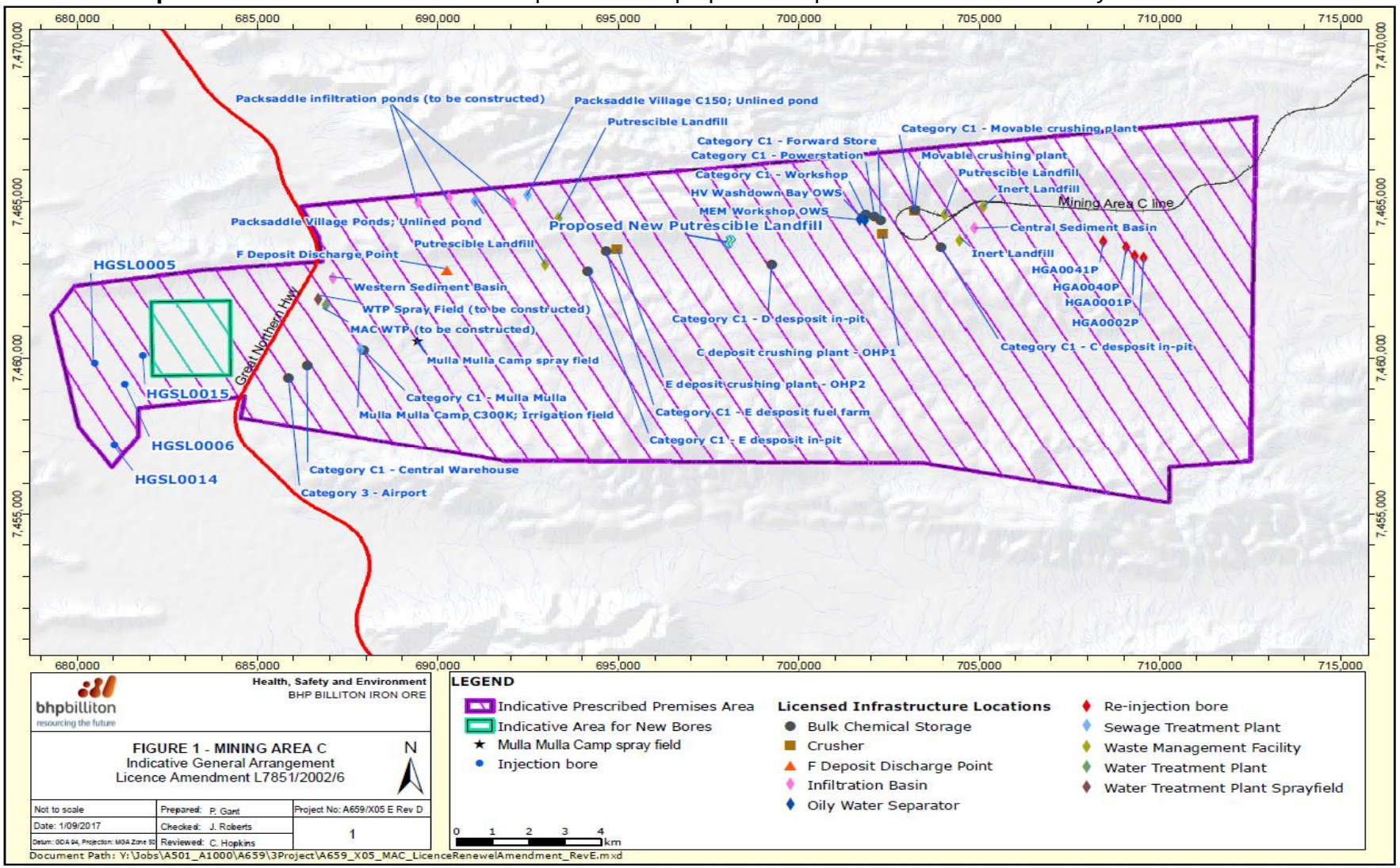
Note 2: Forms are in Schedule 2

21. The Premises map in Schedule 1 is deleted and replaced with the map in Attachment 1 of this Amendment Notice.

22. The Map of emission points and monitoring locations in Schedule 1 are deleted and replaced with the maps in Attachment 2 of this Amendment Notice.

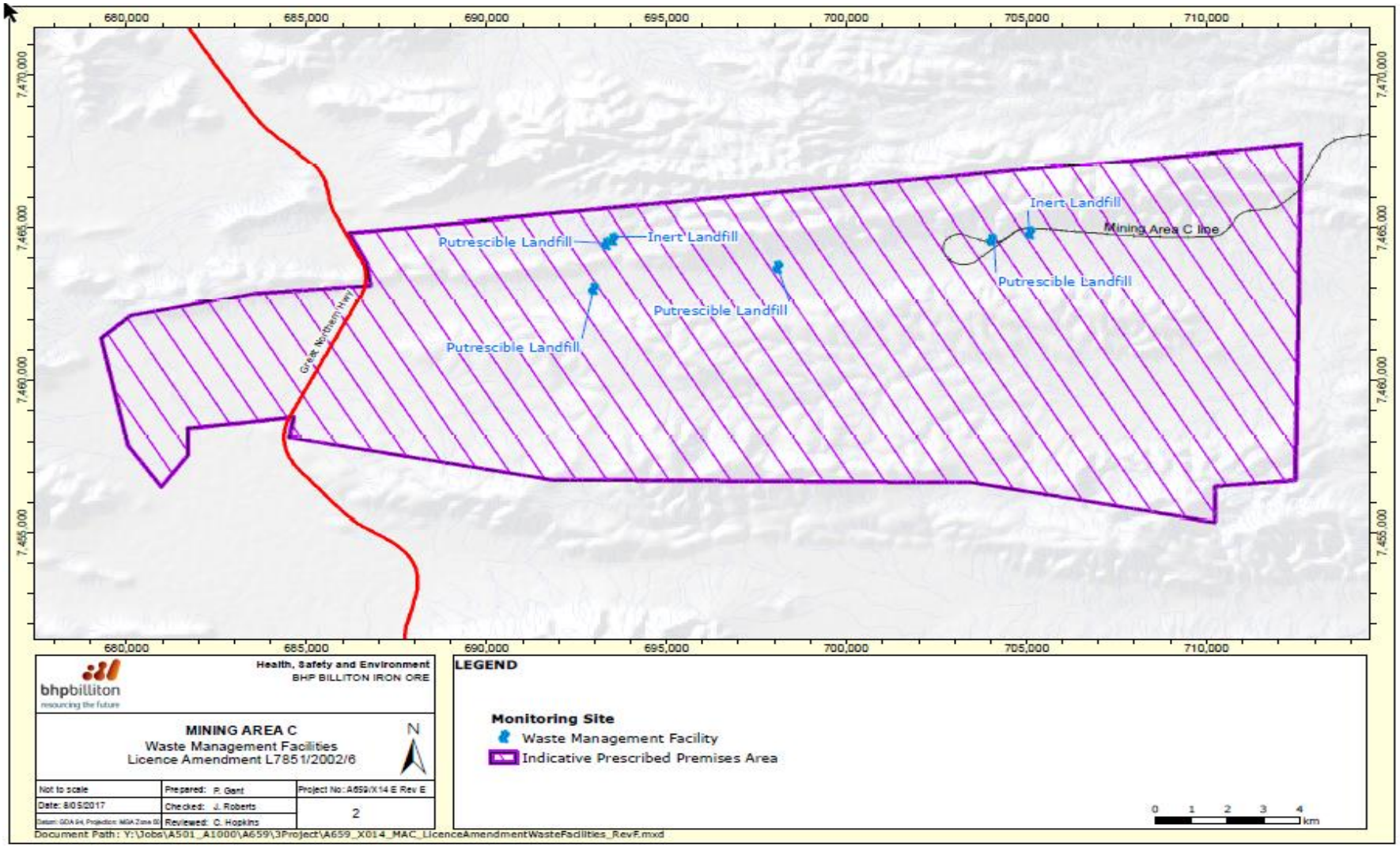
Attachment 1

Premises map. The Premises is shown in the map below. The purple line depicts the Premises boundary.

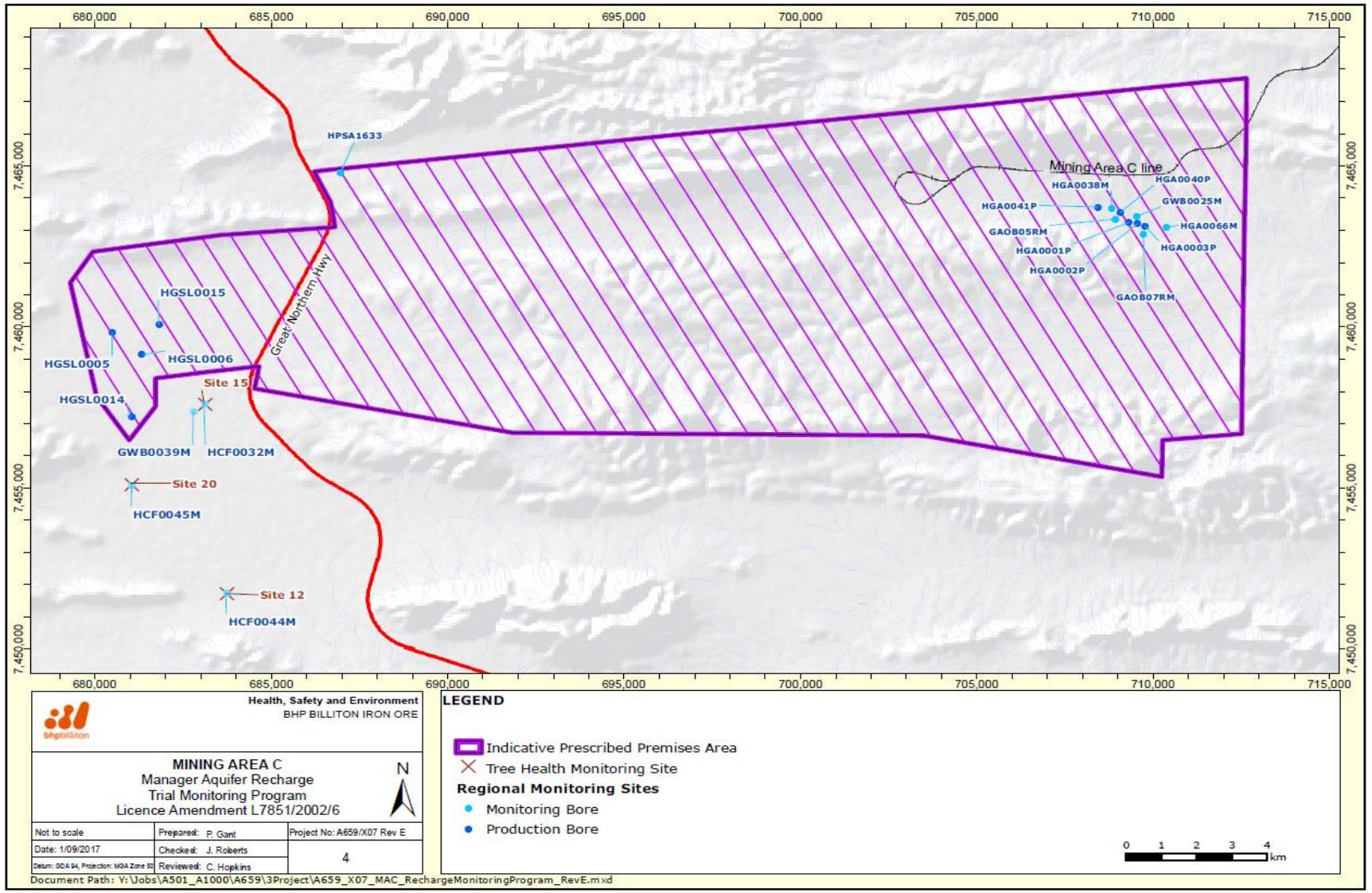


Map of emission points and monitoring locations

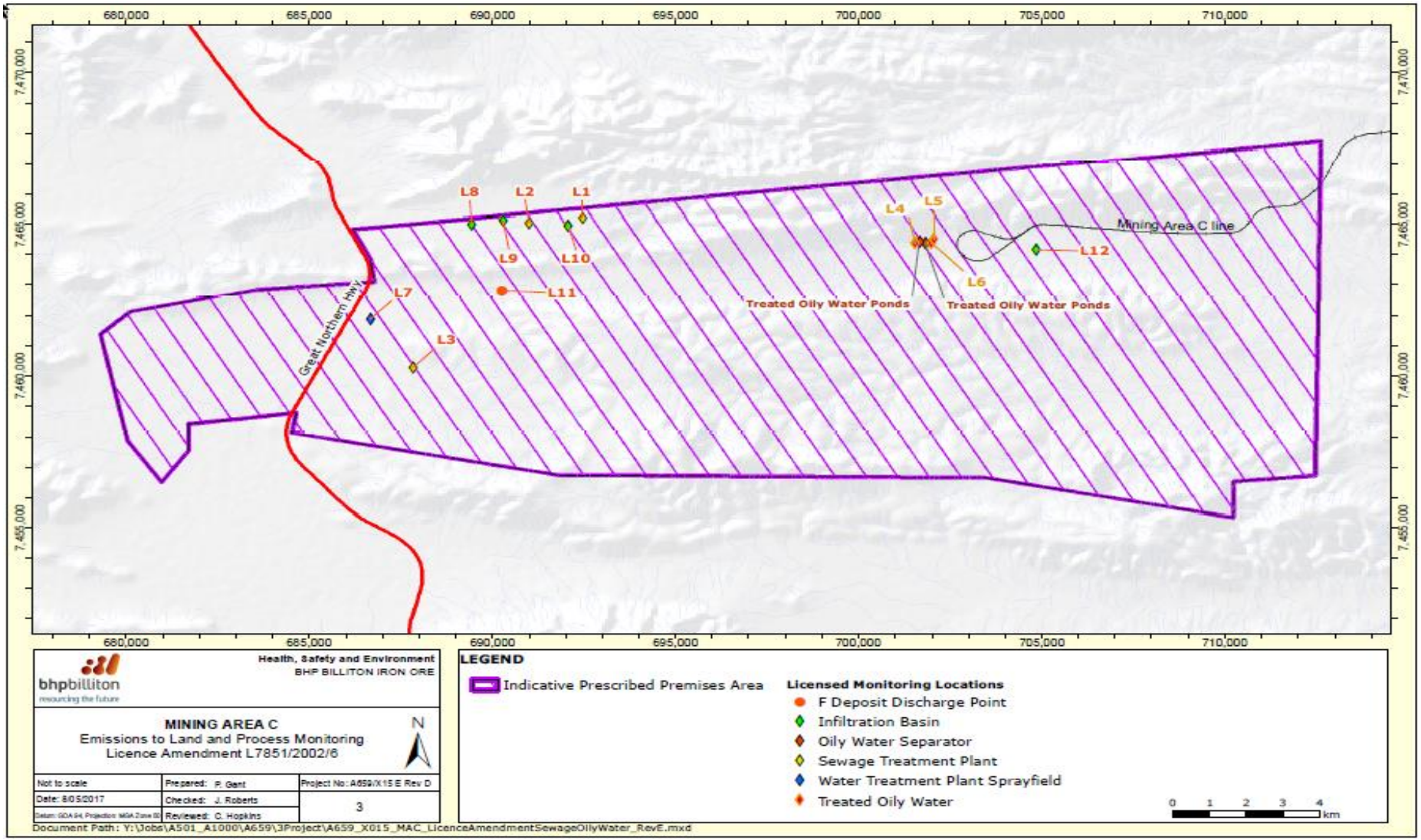
The locations of the emission points (waste processing locations) defined in Table 1.2.2 are shown below.



The locations of the emission points defined in Table 2.2.1 and the monitoring points defined in Tables 3.2.1, 3.5.1, 3.5.2 and 3.5.3 are shown below.



The location of the containment infrastructure defined in Table 1.2.5, emission points defined in Table 2.3.1 and the monitoring points defined in Table 3.3.1 are shown below.



Appendix 1: Key Documents

	Document Title	In text ref	Availability
1	DER, July 2015. *Guidance Statement: Regulatory principles.* Department of Environment Regulation, Perth.		accessed at http://www.der.wa.gov.au
2	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.		
3	DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.		
4	DER, November 2016. *Guidance Statement: Decision Making*. Department of Environment Regulation, Perth.		
5	Email "L7851 – Juna Downs MAR Updated Information", received from Chris Hopkins (BHP Billiton Iron Ore Pty Ltd), 14 February 2017	-	DER records (A1377349)
6	Email "RE: Revised Boundary for the MAC Prescribed Premises", received from Chris Hopkins (BHP Billiton Iron Ore Pty Ltd), 22 February 2017	-	DER records (A1381912)
7	Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009), Department of Environment and Conservation	Landfill Waste Classification and Waste Definitions 1996	accessed at http://www.der.wa.gov.au
8	Licence L7851/2002/6 – Mining Area C Project	L7851/2002/6	accessed at http://www.der.wa.gov.au
9	Mining Area C L7854/2002/6 Licence Amendment Supporting Documentation – Juna Downs MAR (Including information relating to Attachments 2, 3A, 6, 9 and 10), BHP Billiton Iron Ore Pty Ltd, November 2016	BHP, 2016	DER records (A1333071)
10	Ministerial Statement 491	MS 491	accessed at http://www.epa.wa.gov.au/
11	Priority Ecological Communities for Western Australia Version 24, Species and Communities Branch, Department of Parks and Wildlife, 24 June 2016	Parks and Wildlife, 2016	accessed at http://www.dpaw.wa.gov.au
12	RE: Application for a Licence Amendment under the *Environmental Protection Act 1986* – Mining Area C Licence L7851/2002/6, Department of Parks and Wildlife, 18 January 2017	Parks and Wildlife, 2017	DER records (A1360328)

13	Request for comments on Licence Amendment under the *Environmental Protection Act 1986* – Mining Area C – Juna Downs MAR L7851/2002/6, Department of Water, 16 January 2017	DoW, 2017	DER records (A1360146)
14	Understanding-salinity – Salinity status classifications, by total salt concentration table, Department of Water	DoW, Salinity status classification	accessed at http://www.water.wa.gov.au/water-topics/water-quality/managing-water-quality/understanding-salinity
15	Email: *"RE: Additional request for information re: L7851 BHP MAC Juna Downs MAR Amendment Notice 1".* From BHP regarding 2 additional re-injection bores. Email dated 1 August 2017	-	DER records (A1517849)
16	Email: "*Updated Spray Field Location for Mulla Mulla Camp*". From BHP regarding detail on the change in spray field location. Email dated 8 August 2017	-	DER records (A1501494)
17	Email: *"RE: APPLICANT NOTIFICATION - L7851/2002/6 - APPLICATION FOR AN AMENDMENT REQUEST FOR FURTHER INFORMATION".* From BHP regarding the movement of the Mulla Mulla Camp spray field to new location on Premises. Email dated 4 September 2017	-	DER records (A1516834)
18	Email: "*Comments on Draft Licence Amendment Notice for L7851 - Mining Area C 4 Oct 17".* From BHP with feedback on second AN#1 draft review. Email dated 3 October 2017, received 4 October 2017	-	DER records (A1534445)

Appendix 2: Summary of Licensee comments

The Licensee was provided with the draft Amendment Notice on 30 June 2017 for review and comment. The Licensee responded on 18 July 2017. The following comments were received on the draft Amendment Notice.

Comments received	DER consideration of risk
Draft review 1 – July 2017 response	
Amendment of text within Table 1.2.5 to clarify the Material entering the 'Treated Oily Water Ponds' and to remove the requirement for the Light Vehicle wash down water to be treated prior to reaching the lined waste water pond. The Licensee advised that the light vehicle wash down bay was sampled for TRH and that testing of water from the light vehicle wash down bay has shown results of ~1 mg/L TRH.	DWER considers the risk associated with the proposed re-wording of Material entering the Treated Oily Water Ponds, to remove the Light Vehicle washdown water, is nil. The previous licence only provided for 'Material': 'Treated wastewater from HV Washdown bays and Workshops oily water separators' and the risk of these facilities had been previously assessed. No changes to the licence are proposed as a result of adding untreated LV wash down water to the Treated Oily Water Ponds. The discharge overflow point from the Treated Oily Water Ponds will remain to be sampled quarterly while discharging. Given this monitoring measure, DWER considers the risk of untreated LV wash down water entering the lined containment infrastructure, is nil. It is noted that the TRH sampling conducted specifically at the light vehicle wash down bay is not currently required under L7851/2002/6, but is conducted by the Licensee (at the light vehicle wash down bay) for internal monitoring purposes.
The Licensee requested two unnamed bores to be added to Table 1.2.7 for the purpose of construction under this Licence amendment, to enable timely construction of the additional two bores within the MAR scheme. A notification period (top DWER) of one-month prior to construction was nominated by the Licensee. The Licensee also proposed that these two additional bores only be operational subsequent to a future licence amendment.	DWER considers the addition of the two bores to the Licence as low risk to the environment and public health.
The Licensee requested update of Emission Point Reference L4, L5 and L6 in Table 3.3.1 and amend the frequency of L4 emission point sampling to be Quarterly.	DWER considers the update of the names of the emission point references and amendment of L4 sampling frequency to be a low risk to the environment and public health.
Draft review 2 – October 2017 response	
The Licensee requested a wording change to Table 2.3.1: 'Emissions to land: L4, L5 and L6 – Source including abatement' To reflect that the untreated LV water also contributing to the overflow: 'Treated wastewater from heavy vehicle washdown bays, workshop oily water separators and untreated wastewater from the light vehicle washdown bay.'	DWER considers the update of the wording for points L4, L5 and L6 within Table 2.3.1 to constitute a low risk to the environment and public health.