



## Application for Licence Amendment

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Licence Number</b>	L7851/2002/6
<b>Licence Holder</b>	BHP Billiton Iron Ore Pty Ltd
<b>ACN</b>	008 700 981
<b>File Number</b>	DER2013/000925-1
<b>Premises</b>	Mining Area C Project Mining Tenement ML281SA NEWMAN WA 6753 As defined by the Premises maps attached to the Revised Licence
<b>Date of Report</b>	17 August 2020
<b>Decision</b>	Intent to grant revised licence

**Manager, Resource Industries**  
INDUSTRY REGULATION

*An officer delegated by the CEO under section 20 of the EP Act*

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# 1. Decision summary

Licence L7851/2002/6 is held by BHP Billiton Iron Ore Pty Ltd (Licence Holder) for the Mining Area C Project (the Premises), located on Mining Tenement ML281SA in Newman.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during operation of the Premises. As a result of this assessment, Revised Licence L7851/2002/6 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://www.der.wa.gov.au>.

### 2.2 Amendment summary

On 13 May 2020, the Licence Holder submitted an application to the department to amend Licence L7851/2002/6 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). No change to operations or to production/design capacities are proposed; however, the following amendments are being sought:

- accept sewage from the entire site to be processed through the onsite wastewater treatment plant (WWTP) – sewage to be collected using trucks as per current operations.
- allow inert concrete waste (generally consists of rail sleepers or old concrete pads) to be disposed in pit or in overburden storage areas (OSAs) – no concrete with asbestos or non-inert materials will be disposed in pit.
- expansion of a putrescible landfill into an existing inert landfill area.
- allow discharge from oily water separators (OWS) at any location within the prescribed premises boundary rather than at fixed points.
- general administrative changes (naming changes, correction of typographical errors).

Removal of Condition 4.1.1. (Improvement program) is being sought as the program has been completed. The department notes that a Vegetation Monitoring Program was required as part of the Packsaddle infiltration ponds overflow three-year trial, as assessed under Amendment Notice 3 for Licence L7851/2002/6. The Vegetation Monitoring Program (BHP 2019) was submitted to the department on 6 December 2019, and, in a letter of 26 May 2020, the department advised that the commitments from the Vegetation Monitoring Program would be included in Licence L7851/2002/6. This plan has now been incorporated as condition 3.5.4 of Licence L7851/2002/6. Additionally, condition 4.2.2 of Licence L7851/2002/6 formalises the provision of a report on the outcomes of the trial including a discussion of results, environmental impacts and any future actions or proposals.

The Juna Downs Managed Aquifer Recharge (MAR) reinjection bores and associated monitoring bores were reviewed in Amendment Notice 3. This review included adding two new reinjection bores bringing the total to eight reinjection bores and removing the depth to groundwater restriction on the reinjection bores. This restriction was instead placed on adjacent monitoring bores (one bore within 30 m of each reinjection bore). No new bores have been proposed as part of the current amendment; however, revision to conditions 2.2.1, 2.2.2, 2.2.3 and 3.2.1 have been made to accommodate the changes. The Licence Holder should ensure any changes are captured in the Groundwater Licence Operating Strategy.

The department has also consolidated the licence, as per Section 2.4. In consolidating the licence and considering the amendments being sought, updates to the licence were also required to clarify monitoring, management and reporting requirements. As part of this consolidation, any compliance related to constructed infrastructure which has associated compliance evidence has been removed from the licence. These changes are documented in Section 6.1.

## 2.3 Part IV of the EP Act

Ministerial Statement (MS) 1072 to implement a revised proposal to mine the Mining Area C Northern Flank and Southern Flank orebodies was granted on 20 February 2018. This replaced former MS 491 which was for the Mining Area C Northern Flank.

Conditions were set relating to management of cultural heritage, water management for management of the Priority Ecological Community, Coondewanna Flats (Coondewanna Flats and Wanna Munna Flats, Priority 3), ghost bat population and habitat, greenhouse gas reporting, rehabilitation and decommissioning, and offsets.

The proposed amendments do not trigger a review of MS 1072 conditions (or any subsequent management plans). Any clearing associated with the project will be within the existing prescribed premises and will be undertaken in accordance with MS 1072.

## 2.4 Consolidation of Licence

As part of this amendment package, the department has consolidated the licence by incorporating changes made under the Amendment Notices as summarised in Table 1.

**Table 1: Licences consolidated in this amendment**

Instrument	Issued	Summary of approval
L7851/2002/6	13/11/2014	Licence granted
L7851/2002/6	26/04/2016	Notice of Amendment of Licence Expiry Dates
L7851/2002/6	5/10/2017	Amendment Notice 1 to enable the Juna Downs MAR Scheme, construction and operation of a new WWTP spray field and expand the premises boundary.
L7851/2002/6	16/10/2018	Amendment Notice 2 to: <ul style="list-style-type: none"> <li>expand the premises boundary</li> <li>install a second screening plant</li> <li>add new Premises Category 12 for two mobile crushing screening units</li> <li>add the Mulla Mulla Village WWTP into the licence</li> <li>increase inert waste disposal volume, fuel storage volume and putrescible waste volume</li> <li>construction and operation of a new putrescible landfill.</li> </ul>

Instrument	Issued	Summary of approval
L7851/2002/6	7/11/2019	<p>Amendment Notice 3 to:</p> <ul style="list-style-type: none"> <li>• installation of a relocatable crusher</li> <li>• increase the Juna Downs MAR reinjection limit</li> <li>• replace, remove or include several reinjection and monitoring bores</li> <li>• allow overtopping of the Packsaddle infiltration ponds as part of a three year trial</li> <li>• addition of Category 52 for an existing power station</li> <li>• construction and operation of inert landfills and hydrocarbon storage facilities.</li> </ul>

The obligations of the Licence Holder have not changed in consolidating the licence. The department has not undertaken any additional risk assessment of the Premises related to previous Amendment Notices.

In consolidating the licence, the CEO has:

- updated the format and appearance of the Licence
- revised licence condition numbers, and removed any redundant conditions and realigned condition numbers for numerical consistency
- corrected clerical mistakes and unintentional errors.

The full consolidation of licence conditions as they relate to this Revised Licence are detailed in Section 6.1. Previously issued Amendment Notices will remain on the department's website for future reference and will act as a record of the department's decision making.

### 3. Licensing history

Table 2 provides the amendment history for L7851/2002/6.

**Table 2: Licence amendment history**

Instrument	Issued	Amendment
L7851/2002/1	05/05/2003	New licence application to allow ore processing operations to commence
L7851/2002/2	05/05/2004	Licence re-issue
L7851/2002/3	07/11/2004	Licence re-issue
L7851/2002/4	07/11/2006	Licence re-issue
L7851/2002/5	17/11/2009	Licence re-issue
L7851/2002/6	17/11/2014	Licence re-issue and amendment to REFIRE format
L7851/2002/6	22/01/2014	Minor amendment
L7851/2002/6	07/04/2016	Amendment and update to template version 2.9.

Instrument	Issued	Amendment
L7851/2002/6	26/04/2016	Notice of Amendment of Licence Expiry Dates
L7851/2002/6	29/09/2016	Amendment 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 to enable the Juna Downs MAR Scheme, construction and operation of a new WWTP spray field and expand the premises boundary.
L7851/2002/6	16/10/2018	Amendment Notice 2 to: <ul style="list-style-type: none"> <li>• expand the premises boundary</li> <li>• install a second screening plant</li> <li>• add new Premises Category 12 for two mobile crushing screening units</li> <li>• add the Mulla Mulla Village WWTP into the licence</li> <li>• increase inert waste disposal volume, fuel storage volume and putrescible waste volume</li> <li>• construction and operation of a new putrescible landfill.</li> </ul>
L7851/2002/6	7/11/2019	Amendment Notice 3 to: <ul style="list-style-type: none"> <li>• install a relocatable crusher</li> <li>• increase the Juna Downs MAR reinjection limit</li> <li>• replace, remove or include several reinjection and monitoring bores</li> <li>• allow overtopping of the Packsaddle infiltration ponds as part of a three year trial</li> <li>• addition of Category 52 for an existing power station</li> <li>• construction and operation of inert landfills and hydrocarbon storage facilities.</li> </ul>

## 4. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

### 4.1 Source-pathways and receptors

#### 4.1.1 Emissions and controls

The amendment contains no activities which require construction or commissioning phase. The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 3. Table 3 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 3: Licence Holder controls**

Emission	Sources	Potential pathways	Proposed controls
Dust	Disposal of concrete waste in pit or in OSAs	Air/windborne pathway causing impacts to amenity	Dust control on unsealed roads will be managed via the use of water carts, as required.  Disposal at licensed landfills will be in accordance with the existing licence conditions (Conditions 1.2.2, 1.2.4, 1.2.6, 1.2.7, 1.2.8 and 3.4.1).  Disposal at OSA's or in-pit area will be managed in accordance with the general movement and tipping of waste rock at the mine.
Leachate	Expansion of putrescible landfill	Infiltration of leachate to groundwater	Proposed to be managed in the same manner as other putrescible landfills at the premises, as documented in the current approved licence (Conditions 1.2.2, 1.2.4, 1.2.6, 1.2.7, 1.2.8 and 3.4.1)
Odour		Air/windborne pathway causing impacts to amenity	
Hydrocarbon contaminated water	Discharge from OWS's	Direct discharge of hydrocarbon contaminated water	Maintain current design and operation of OWS: <ul style="list-style-type: none"> <li>Ponds to be 1.5 mm HDPE lined evaporation pond to achieve a permeability of <math>&lt;10^{-9}</math> m/s (Condition 1.2.11)</li> <li>Discharge limit of 15 mg/L TRH (Condition 2.3.2) monitored on a quarterly basis (Condition 3.3.1)</li> <li>Monitoring results in the Annual Environmental Report (Condition 4.2.1).</li> </ul> In addition, the location of any existing or new OWS (and associated monitoring) will be reported regularly in the Annual Environmental Report.

### 4.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 4 provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2016)). Figure 1 shows the distance to the sensitive receptors.

**Table 4: Sensitive receptors and distance from prescribed activity**

Receptors	Distance from prescribed activity
Rio Tinto Iron Ore's Hope Downs Ore Mining Operation and village	2 km south of the premises.
Great Northern Highway	An approximately 15 km long section within the premises.
Groundwater	Hamersley Fractured Rock Aquifer. Depth to groundwater approx. 90 m.
Surface water	A number of unnamed perennial watercourses flow across the premises.

## 4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 4.1. Where linkages are in-complete they have not been considered further in the risk assessment.

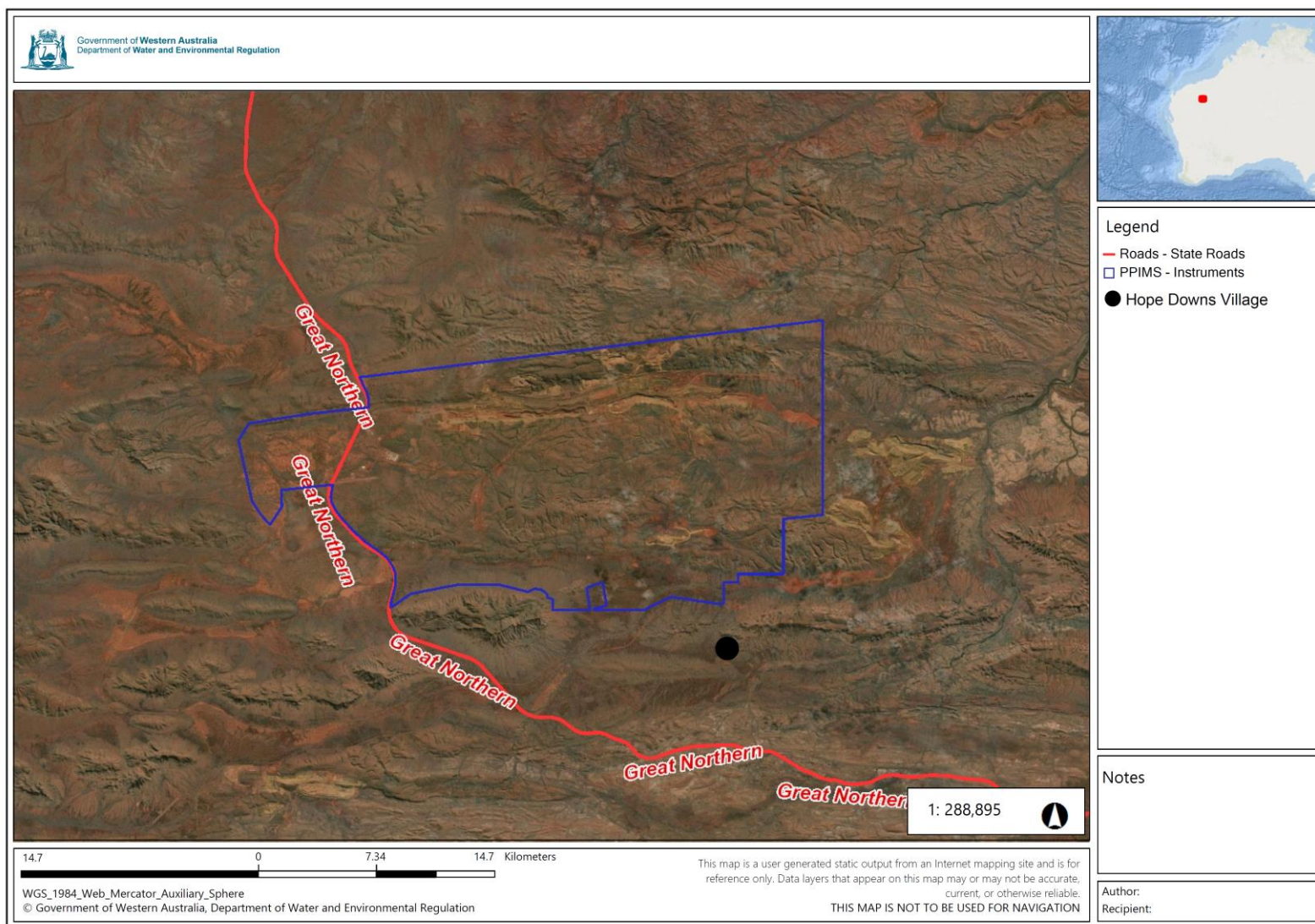
Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 4.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

The Revised Licence L7851/2002/6 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 63, inert concrete waste disposal in pit and in OSAs; Category 73, OWSs at any location within the prescribed premises boundary; and Category 89, expand putrescible landfill into already existing inert landfill.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).





**Figure 1: Sensitive receptors**

Licence: L7851/2002/6

IR-T15 Amendment Report Template v1.0 (May 2020)

**Table 5. Risk assessment of potential emissions and discharges from the Premises during construction and operation**

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation (including time-limited-operations)								
<b>Category 63</b> Inert concrete waste disposal in pit and in OSAs	Dust	Air/windborne pathway causing impacts to amenity	Great Northern Highway Hope Downs village	Refer to Section 4.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1.2.2, 1.2.4, 1.2.6, 1.2.7, 1.2.8 and 3.4.1	The in pit/OSA disposal of inert concrete is not likely to significantly contribute to, or significantly increase, the amount of dust produced at the mine, and therefore, the current licence conditions are applicable.
<b>Category 73</b> OWSs at any location within the prescribed premises boundary	Hydrocarbon contaminated water	Direct discharge of hydrocarbon contaminated water	Surface water (perennial drainage lines)	Refer to Section 4.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 1.2.11, 2.3.2, 3.3.1 and 4.2.1	As reported in the recent Annual Environmental Report (AER) for L7851/2002/6, the Total Recoverable Hydrocarbons (TRH) at emission points L4, L5 and L6 were below 0.5 mg/L when discharging. No notifications of a breach of condition relating to the OWS's has been received by the department to date.  Any new OWS should be located 100 m away from sensitive receptors, drainage lines and the premises boundary. Any new OWS must have minimum vertical freeboard of 300 mm except during a 72 hour duration, ten year annual recurrence interval storm event.  Therefore, while the locations of the OWS are to be reported in the AER, the conditions relating to the design, discharge quality and reporting requirements for OWS's will be maintained.
<b>Category 89</b> Expand putrescible landfill into already existing inert landfill	Leachate	Infiltration of leachate to groundwater	Groundwater 90 mbgl	Refer to Section 4.1.1	C = Minor L = Rare <b>Low Risk</b>	Y	Condition 1.2.2, 1.2.4, 1.2.6, 1.2.7, 1.2.8 and 3.4.1	NA
	Odour	Air/windborne pathway causing impacts to amenity	Hope Downs village	Refer to Section 4.1.1				NA

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

Note 2: Existing controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls.

Licence: L7851/2002/6

IR-T15 Amendment Report Template v1.0 (May 2020)

## 5. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

**Table 6: Consultation**

Consultation method	Comments received	Department response
Shire of East Pilbara advised of proposal (3/06/2020)	NA	NA
Department of Jobs, Tourism, Science and Innovation advised of proposal (3/06/2020)	NA	NA
Licence Holder was provided with draft amendment on (21/07/2020)	Refer to Appendix 2	Refer to Appendix 2

## 6. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

### 6.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Table 7: Summary of licence amendments**

Condition no.	Proposed amendments
1.1.1	<i>No change.</i>
1.1.2	<i>No change.</i>
1.1.3	Condition removed the information is in the introduction.
1.1.4	<i>No change.</i>
1.2.1	<i>No change.</i>
1.2.2	Removed clean fill as part of waste acceptance criteria in Table 1.2.1. Added to the Sewage waste type that waste is accepted from non-sewered facilities at the premises. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.
1.2.3	<i>No change. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</i>

Condition no.	Proposed amendments
1.2.4	Added concrete as an Inert Waste Type 1 to only be deposited within licensed landfill facilities, pits or overburden storage areas located within the prescribed premises.  Added 'Rubber' to Inert Waste Type 2 to clarify that the waste type includes rubber and not only tyres.
1.2.5	<i>No change.</i>
1.2.6	Requirement regarding stockpiles of cover on site has been removed as the requirements of cover amounts and timeframes are stipulated in the associated table.
1.2.7	<i>No change.</i>
1.2.8	<i>No change.</i>
1.2.9	<i>No change.</i>
1.2.10	Current production or design capacity limits updated for relevant categories. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.
1.2.11	Added the Central Sediment Basin to the containment infrastructure and updated relevant emission points for the storage vessels or compounds.
1.2.12	Condition removed as the infrastructure to be installed is contained in condition 1.2.12 (below) and any pertinent diagrams added into the licence.
1.2.13	Infrastructure that has been constructed has been removed where construction/compliance reports have been received by the department.  Condition renumbered to 1.2.12.
1.2.14	Deleted. Compliance report received for the infrastructure.
1.2.15	Deleted. Compliance report received for the infrastructure.
1.2.16	<i>No change. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 1.2.13.</i>
1.2.17	<i>No change. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 1.2.14.</i>
1.2.18	<i>No change. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 1.2.15.</i>
1.2.19	<i>No change. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 1.2.16.</i>
1.2.20	<i>No change. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 1.2.17.</i>
1.2.21	Deleted. Compliance report received for the infrastructure.
2.1.1	<i>No changes.</i>
2.2.1	While the Licence Holder's application suggested to add bores HGSL0019M and HGSL0025M to the condition, these are monitoring bores and not reinjection bores, and so the related re-injection bores for these monitoring bores, HGSL0037P and HGSL0038P, were included.  Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.

Condition no.	Proposed amendments
2.2.2	Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.
2.2.3	<p>While the Licence Holder's application suggested to add bores HGSL0019M and HGSL0025M to the condition, these are monitoring bores and not reinjection bores, and so the related re-injection bores for these monitoring bores, HGSL0037P and HGSL0038P, were included.</p> <p>To provide further clarity on the interaction between the re-injection bores and their related monitoring bores, the condition has been updated to include the relevant monitoring point for each emission point.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>
2.3.1	<p>Emission points L4, L5 and L6 removed, replaced with allowed discharge for treated potentially hydrocarbon contaminated wastewater from the site.</p> <p>Condition amended to define that emission point L20 is only able to be used when emission point L11 has been decommissioned.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>
2.3.2	<p>Emission points L4, L5 and L6 removed, replaced discharge for treated potentially hydrocarbon contaminated wastewater from the site.</p> <p>Amended condition to include a description of the emission points.</p>
3.1.1	<i>No changes.</i>
3.1.2	<i>No changes.</i>
3.1.3	<i>No changes.</i>
3.1.4	<i>No changes.</i>
3.2.1	<p>Monitoring of groundwater levels at emission points (reinjection bores) relocated to the related monitoring points (as identified within Condition 2.2.3). This was previously assessed during Amendment Notice 3.</p> <p>Monitoring able to be undertaken from the associated Turkeys Nest which supplies the water to the reinjection points, except for cumulative volume which remains at the emission points.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>
3.3.1	<p>Removed emission points L4, L5 and L6 and added an emission point for treated potentially hydrocarbon contaminated wastewater monitoring for the amount of wastewater discharged on a year and the Total Recoverable Hydrocarbons, including monitoring for exceedances.</p> <p>Added Emission point L20. Monitoring for L8 – L12 and L15 – L20 allowed at the related Turkeys Nest in addition to the trunk line prior to the relevant infiltration/ sediment basin.</p> <p>Added visual monitoring of the wetting front limit marker (SCPH0010).</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>
3.4.1	<i>No changes. Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</i>
3.5.1	<p>Frequency of monitoring for HPA1633 changed from monthly to quarterly monitoring.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>



Condition no.	Proposed amendments
3.5.2	<p>Added monitoring of Total Dissolved Solids for monitoring bores HCF0023M, HCF0032M and HCF0045M to link in with the limit set in Condition 3.5.1.</p> <p>Frequency of monitoring for HPA1633 changed from monthly to quarterly monitoring.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>
3.5.3	<p>Added monitoring for the groundwater level at the HPSA1633 monitoring point (Packsaddle Infiltration Ponds) to link in with the trigger level in Condition 3.5.2.</p> <p>Added the site reference points to the relevant monitoring bore location for measurement of Leaf Water Potential for individuals of <i>Eucalyptus victrix</i> at the sites. Added clarification that the Leaf Water Potential is to be included in routine monitoring (in addition to ongoing Crown Condition Score and Diameter at Breast Height) if an exceedance of the trigger level stipulated in condition 3.5.2 occurs.</p> <p>Added monitoring frequency for the visual assessments and vegetation monitoring to within the first week and then quarterly after the water table has recovered to below target levels. The monitoring duration has been moved to condition 4.2.2 to tie in with non-annual reporting requirements.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged.</p>
3.5.4	New condition. Added the monitoring locations as per the Packsaddle Infiltration Ponds Vegetation Monitoring Program required under previous Condition 4.1.1 (Improvement plan).
4.1.1	Condition removed as the improvement plan has been completed.
5.1.1	<i>No changes. Condition renumbered to 4.1.1.</i>
5.1.2	Timeframe for reporting updated to 1 October each year. Condition renumbered to 4.1.2.
5.1.3	<i>No changes. Condition renumbered to 4.1.3.</i>
5.2.1	<p>Added the requirement to provide in the Annual Environmental Report, the locations (including a figure and coordinates) where treated potentially hydrocarbon contaminated wastewater is discharged, and the associated monitoring results.</p> <p>Added the requirement to report in the Annual Environmental Report, on the Packsaddle Infiltration Ponds Vegetation Monitoring Program.</p> <p>Added the requirement to submit the Annual Audit Compliance Report with the Annual Environmental Report.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 4.2.1.</p>
5.2.2	Condition removed as the requirement to report against previous monitoring results is contained within Condition 4.2.1.
5.2.3	<p>Added reporting for the Packsaddle infiltration ponds three year trial at the end of the trial to help inform any amendments to the licence.</p> <p>Added the commissioning reporting requirements.</p> <p>Added and clarified the reporting requirements for the groundwater level trigger exceedances as per conditions 3.5.2 and 3.5.3, including the monitoring duration after water levels have recovered.</p> <p>Added the reporting requirements for the Packsaddle infiltration ponds trial as per condition 3.5.4 after the trial has been completed.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 4.2.2.</p>

Condition no.	Proposed amendments
5.3.1	<p>Added the construction requirement for the putrescible landfill and removed requirements for the infrastructure that has already been constructed.</p> <p>Added requirement to notify the department when groundwater levels have receded, if condition 3.5.3 applies.</p> <p>Added requirement to notify the department if water is detected at SCPH010 during no flow conditions, as per condition 3.5.4.</p> <p>Updated wording to provide clarity for condition requirements; intent of condition remains unchanged. Condition renumbered to 4.3.1.</p>
Schedule 1 Maps	<p>Updated maps to include the new putrescible landfill and the Turkeys Nest monitoring locations. Maps updated to remove emission locations L4, L5 and L6.</p> <p>New map added to show the locations of the Packsaddle infiltration trial monitoring sites.</p>

## References

BHP Billiton Iron Ore Pty Ltd (BHP) 2019, *Mining Area C – South Flank, Packsaddle Infiltration Ponds Vegetation Monitoring Programme (Revision 0)*, Unpublished report prepared by BHP Billiton Iron Ore Pty Ltd. DWER reference: A1894655.

Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.

Department of Environment Regulation (DER) 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.



## Appendix 1: Summary of Licence Holder's comments on draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Condition 1.2.4	Remove the reference to Clean Fill to align with change in Table 1.2.1.	Noted and amended.
Condition 1.2.11	Revise 'Material' column in Table 1.2.5 to <i>Treated potentially hydrocarbon contaminated wastewater</i> . This will allow systems to be installed to treat potentially contaminated water from other sources e.g. bunded hydrocarbon storage areas and refuelling aprons.  Replicate this change throughout the licence.	The Delegated Officer notes that this would cover treated wastewater from heavy vehicle washdown bays, workshop oily water separators, untreated water from the light vehicle wash down bay and potentially contaminated water from other sources, such as bunded hydrocarbon storage areas and refuelling aprons.  The text has been replaced with <i>Treated potentially hydrocarbon contaminated wastewater</i> , and has been updated in Condition 2.3.1, Condition 2.3.2, Condition 3.3.1 and Condition 4.2.1.
	Remove the text regarding the Central Sediment Basin freeboard requirement. The free board requirement for the Central Sediment Basin is not suitable as water is designed to flow from this facility along drainage lines to the east. Water is then prevented from leaving the site at the Eastern Sediment Basin.	The Delegated Officer notes the requirements for the Central Sediment Basin and has replaced the text with; <i>Water is designed to flow from Central Sediment Basin along drainage lines to the east and reporting to the Eastern Sediment Basin. Water is then prevented from leaving the site at the Eastern Sediment Basin.</i>
Condition 1.2.12	Remove L20 Western Sediment Basin discharge point from Table 1.2.6 as it has been constructed. BHP notes that a Compliance Report was not submitted; this is currently being confirmed and an update to DWER is forthcoming.	No change The Delegated Officer notes that the compliance report has not yet been submitted for the construction of the L20 discharge point. Once this report has been received, the licence can be amended.
	Reinstate MAC WTP Stage 2 to Table 1.2.6 as it is not yet constructed.	Noted and amended.
Condition 1.2.13	Change in text reference from <i>Condition 4.2.3</i> to <i>Condition 4.3.1</i> .	Noted and amended.
Condition 1.2.14	Remove this condition as Juna Downs has been constructed and the compliance report submitted to DWER (16 May 2019), therefore there are no longer reporting requirements beyond the other conditions in the licence.	Noted and amended.

Condition	Summary of Licence Holder's comment	Department's response
Condition 1.2.15	Remove this condition as the screening plant has been constructed and the compliance report submitted to DWER (06 March 2019), therefore there are no longer reporting requirements beyond the other conditions in the licence.	Noted and amended.
Condition 1.2.20	Remove this condition as packsaddle ponds have been constructed and the compliance report submitted to DWER (December 2019), therefore there are no longer reporting requirements beyond the other conditions in the licence	Noted and amended.
Condition 2.2.2	Retain text <i>not less than</i> to clarify that depth to groundwater is not to be less than 7 mbgl.	Noted and amended.
Condition 2.2.3	Update Management action text to include <i>at the related monitoring point</i> at the end of the sentence.	Management updated to state that <i>The Licence Holder shall immediately cease direct injection at an emission point where a limit exceedance at the related monitoring point has occurred.</i>
Condition 3.2.1	<p>Revise Table 3.2.1 in line with the following:</p> <ul style="list-style-type: none"> <li>▪ Cumulative volume can only be measured on each individual reinjection bore (emission point)</li> <li>▪ Depth to groundwater is measured from the related monitoring bore (monitoring point)</li> <li>▪ Water from the Trunk line / Turkeys Nest is the same water source for all emission points. It is safer and easier to capture water quality data from the Trunk line / Turkeys Nest rather than at the individual injection bores. Noting that there are no other water sources added to the system after this point.</li> </ul>	<p>The Delegated Officer notes that the comments are in line with the Amendment Notice 3, in that monitoring bores associated with the reinjection bores have been installed to measure depth to groundwater, while the quality is tested at the reinjection bores.</p> <p>The Delegated Officer notes that the License Holder has requested water quality testing to be undertaken at the Trunk line / Turkeys Nest that is immediately upstream of the reinjection bores. The Delegated Officer considers that testing of water upstream of the reinjection bores is acceptable and is consistent with other similar reinjection processes.</p>

Condition	Summary of Licence Holder's comment	Department's response
Condition 3.3.1	Amend the monitoring location for the following emission points to ensure easy and safe access to monitoring locations: <ul style="list-style-type: none"> <li>▪ For emission points L8, L9, L10, L11 or L20, L15, and L19 amend the monitoring point location to be: <ul style="list-style-type: none"> <li>○ <i>E Deposit Turkeys nest or at the trunk line prior to the infiltration/ sediment basin</i></li> </ul> </li> <li>• For emission points L12, L16, L17 and L18 amend the monitoring point location to be: <ul style="list-style-type: none"> <li>○ <i>A Deposit Turkeys nest or at the trunk line prior to the infiltration/ sediment basin</i></li> </ul> </li> </ul>	Noted and amended.
	Proposed monthly monitoring is acceptable for L8, L9 and L10.	Noted.
	Change the Emission reference point: Heavy vehicle washdown bays, workshop oily water separators, light vehicle wash down bays to Treated potentially hydrocarbon contaminated wastewater. This will allow systems to be installed to treat potentially contaminated water from other sources e.g. bunded hydrocarbon storage areas and refuelling aprons.	Refer to response for Condition 1.2.11 above.
	The frequency for TRH monitoring in Table 3.3.1 is unclear, suggest amending to <i>Quarterly when discharging. One week after the reportable trigger in Table 2.3.2 is exceeded. In the event that there are three consecutive weekly exceedances, discharge from that emission point must cease.</i>	The Delegated Officer considers the following text clarifies the intent of the text: <i>Quarterly when discharging. Weekly if the reportable limit in Table 2.3.2 is exceeded. If there are three consecutive weekly exceedances, discharge from that emission point must cease.</i>
Condition 3.4.1	Remove the reference to Clean Fill to align with change in Table 1.2.1.	Noted and amended.

Condition	Summary of Licence Holder's comment	Department's response
Condition 3.5.1 and Condition 3.5.2	<p>Request that the monitoring for HPSA1633M (associated with the infiltration from the Packsaddle Ponds) be changed from monthly to quarterly monitoring.</p> <p>BHP has been operating the scheme continuously since 9 January 2020 (7 months) and a 1 m water level rise from ~80 mbtoc to ~79 mbtoc has been observed at this monitoring bore.</p> <p>Considering the depth to groundwater, it is reasonable to assume that quarterly monitoring will still facilitate the intent of monitoring at this bore. The current trigger level is when groundwater reaches <math>\leq 13</math> mbgl with a limit of <math>\leq 8</math> mbgl. Given that a rise of 1 m has been recorded over the past 7 months, and that a further rise of 66 m would be required before the trigger level is reached, quarterly monitoring is considered appropriate for this bore.</p> <p>The change is also required as it is currently difficult/dangerous to access the bore during the wet season (e.g. personnel have become bogged several times in the last wet season).</p>	<p>The Delegated Officer notes the depth to groundwater at HPSA1633 as reported in the 2018/2019 AER is approximately 80 mbgl.</p> <p>The Delegated Officer considers that quarterly monitoring for bore HPSA1663 is acceptable considering the depth to water in the bore and to allow flexibility for safe access of the bore.</p>
Condition 3.5.3	<p>Amend the frequency of visual assessment vegetation monitoring be "Quarterly and to continue for one quarter after groundwater levels have returned to below target level". This is to allow for the lag between a trigger exceedance and an identifiable change occurring to vegetation.</p>	<p>The Delegated Officer notes that quarterly monitoring would be acceptable; however, undertaking the required assessment close to the point when the exceedance occurred is also important to form a baseline for comparison against further assessments. The frequency for visual assessment and vegetation monitoring has been amended as follows:</p> <p><i>Within one week of the exceedance of the trigger level specified in Condition 3.5.2 at the relevant monitoring point.</i></p> <p><i>Quarterly at the relevant monitoring point, continuing no less than one quarter after groundwater levels have receded to below the trigger levels specified in Condition 3.5.2.</i></p> <p>The reporting period in Condition 4.2.2 has been amended to reflect the above.</p>
Condition 4.1.2	<p>Amend the condition to submit the report by 1 October each year. This will align the reporting to the same date as Condition 4.2.1 and aligns to BHP's Annual Environmental Reporting Date.</p>	<p>Noted and amended.</p>

Condition	Summary of Licence Holder's comment	Department's response
Condition 4.2.1	As per Condition 1.2.11: Treated Oily wastewater: revised to <i>Treated potentially hydrocarbon contaminated wastewater</i> . This will allow systems to be installed to treat potentially contaminated water from other sources e.g. bunded hydrocarbon storage areas and refuelling aprons.	Refer to response for Condition 1.2.11 above.
	Remove the following requirement against Condition 3.5.4 as there is no target for SW monitoring in Condition 3.5.4 (it is event based): "Summarise surface water monitoring against target for the reporting year."	<p>The Delegated Officer notes that the 'target' relates to requirements within the Packsaddle Infiltration Ponds Vegetation Monitoring Program to monitor surface water, namely:</p> <ul style="list-style-type: none"> <li>• Early Warning Trigger- SCPH0009; presence of water detected at SCPH009 during no flow conditions</li> <li>• Wetting Front Limit – SCPH0010; presence of water detected at SCPH010 during no flow conditions.</li> </ul> <p>Monitoring of surface water is currently within Condition 3.5.4. The trigger and limit above have been included in Condition 3.5.4, and the reporting requirement amended in Condition 4.2.1 to <i>Summarise surface water monitoring for SCPH0009 and SCPH0010 for the reporting year</i>.</p>
Condition 4.2.2	Amend the reporting date to within 4 months for the reporting requirement for Conditions 1.2.11 and 3.5.4. The last vegetation monitoring event may occur in November or December of the reporting period and the report preparation will require time to be able to process data and previous reports.	Noted and amended.
Condition 4.3.1	Add the word <i>Condition</i> to Row 2 of the table	Noted and amended.
	Remove references to Conditions 1.2.14, 1.2.15 and 1.2.20 and the references to Juna Downs MAR scheme, and three mobile crushing and screening plants, Packsaddle Infiltration Ponds overtopping points as construction is complete and compliance reports have been submitted, while the Power Station was a pre-existing facility.	Noted and amended.
Figure 1	Figure 1 was missing 2 injection bores (shown on Figure 4). These have been added to Figure 1.	Noted and amended.

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
<b>Application type</b>					
Works approval	<input type="checkbox"/>				
Licence	<input type="checkbox"/>	Relevant works approval number:		None	<input type="checkbox"/>
		Has the works approval been complied with?			Yes <input type="checkbox"/> No <input type="checkbox"/>
		Has time limited operations under the works approval demonstrated acceptable operations?			Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?			Yes <input type="checkbox"/> No <input type="checkbox"/>
		Date Report received:			
Renewal	<input type="checkbox"/>	Current licence number:			
Amendment to works approval	<input type="checkbox"/>	Current works approval number:			
<b>Amendment to licence</b>	<input checked="" type="checkbox"/>	<b>Current licence number:</b>	<b>L7851/2002/6</b>		
		Relevant works approval number:		N/A	<input checked="" type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>
Date application received		13 May 2020			
<b>Applicant and Premises details</b>					
Applicant name/s (full legal name/s)		BHP Billiton Iron Ore Pty Ltd			
Premises name		Mining Area C			
Premises location		Mining Tenement ML281SA and ML249SA NEWMAN WA 6753			
Local Government Authority		Shire of East Pilbara			
<b>Application documents</b>					
HPCM file reference number:		DER2013/000925-1			

Key application documents (additional to application form):	Supporting document	
Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	<p>Operation of Mining Area C (MAC) to produce iron ore for export via Port Hedland. No change to operations or to production/design capacities. Minor changes proposed to:</p> <ul style="list-style-type: none"><li>• Category 6: Administrative, covered by previous amendments</li><li>• Category 54: change to accept sewage from all the site to the WWTP</li><li>• Category 63: addition of in pit and overburden storage of concrete waste; change of waste Type 2 from ‘tyres’ to ‘rubber’ (administrative)</li><li>• Category 73: remove OWS licence discharge points/locations but keep the reporting requirements</li><li>• Category 89: expansion of a putrescible landfill into an existing inert landfill;</li><li>• No category: remove Condition 4.1.1 Improvement program as has been completed (administrative).</li></ul> <p>Note: amalgamation/consolidation of licence to be undertaken.</p>	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity
Category 6: Mine dewatering	34,931,000 tonnes per Annual Period total.	No changes to total licensed surplus water disposal volume, but administrative changes sought:
Category 54: Sewage Facility	1,110 m³ per day.	No changes to licensed throughput, but the following change is requested: <ul style="list-style-type: none"><li>• Change “Accepted through sewer inflow(s) only.” To “Accepted to sewer facilities.”</li></ul>
Category 63: Class 1 Inert landfill	16,500 tonnes per annual period.	No change to the annual disposal limit but the following change is requested: <ul style="list-style-type: none"><li>• Allow for inert concrete waste to be buried anywhere in pit or within OSAs.</li></ul>
Category 89: Putrescible Landfill	5,000 tonnes per Annual Period.	No change to the annual disposal limit but expand the existing putrescible landfill site located south of Packsaddle camp to the east.

Legislative context and other approvals			
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: CMS16136 Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>	
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 1072 EPA Report No:	
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: Strategic Environmental Assessment Approval Notice dated 19 June 2017	
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry: <b>None provided but SAA applies - Iron Ore (Mount Goldsworthy) Agreement Act 1964</b>	
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? <b>Is under a SAA, planning not required</b>	
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A <b>No clearing is proposed. Managed under MS 1072.</b>	
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A <b>No clearing is proposed.</b>	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Application reference No: N/A Licence/permit No: GWL 110044(11)	



Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Pilbara Groundwater Area, Ashburton River and Upper Fortescue Surface Water Areas Type: Proclaimed Groundwater Area/ Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: North West <b>No change to category amounts.</b>	
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <a href="#">WQPN 25</a> )? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i> )	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Iron Ore (Mount Goldsworthy) Agreement Act 1964 Dangerous Goods Licence DGS017237	
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Site ID: 10797 Description: Coondewanna Airport Classification: Information Request Date of classification: N/A Site ID: 5154 Description: Marillana Creek (Yandi) Iron Ore Mining Operation. Classification: possibly contaminated – investigation required (PC–IR) Date of classification: Dec 3, 2014	

## Appendix 3: Amendment Notices