



## Application for Licence Amendment

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

---

<b>Licence Number</b>	L6453/1990/12
<b>Licence Holder</b>	BHP Nickel West Pty Ltd
<b>ACN</b>	004 184 598
<b>File Number</b>	2011/009443-1
<b>Premises</b>	Mt Keith Operations WILUNA WA 6646  Legal description –  Mining tenements M36/183-185, 246, 286, 288, 294, 399, 422, 467, 658, 677, M53/56-57, 165-167, 208, 215-218, 327- 328, 489, General purpose lease G53/11-14 and Miscellaneous licence L36/206
<b>Date of Report</b>	16 March 2023
<b>Decision</b>	Revised licence granted

A/MANAGER, RESOURCE INDUSTRIES  
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

## Table of Contents

<b>1. Decision summary</b>	<b>1</b>
<b>2. Scope of assessment</b>	<b>1</b>
2.1 Regulatory framework	1
2.2 Application summary	1
2.3 Installation of new monitoring bores	1
<b>3. Risk assessment</b>	<b>4</b>
3.1 Source-pathways and receptors	4
3.1.1 Emissions and controls	4
3.1.2 Receptors	4
3.2 Risk ratings	6
<b>4. Consultation</b>	<b>8</b>
<b>5. Conclusion</b>	<b>8</b>
5.1 Summary of amendments	8
<b>References</b>	<b>9</b>
<b>Appendix 1: Summary of Licence Holder’s comments on risk assessment and draft conditions</b>	<b>10</b>
<b>Appendix 2: Application validation summary</b>	<b>13</b>
<b>Table 1: Decommissioned and replacement bores</b>	<b>1</b>
Table 2: Licence Holder controls	4
Table 3: Sensitive human and environmental receptors and distance from prescribed activity	5
Table 4. Risk assessment of potential emissions and discharges from the Premises during construction	7
Table 5: Consultation	8
Table 6: Summary of licence amendments	8
<b>Figure 1: Decommissioned and replacement bores</b>	<b>3</b>

## 1. Decision summary

Licence L6453/1990/12 is held by BHP Nickel West Pty Ltd (Licence Holder) for the Mt Keith Operations (the Premises), located in Wiluna, Western Australia.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L6453/1990/12 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://dwer.wa.gov.au/regulatory-documents>.

### 2.2 Application summary

On 25 November 2022, the Licence Holder submitted an application to the department to amend Licence L6453/1990/12 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- The removal of monitoring bores which are being decommissioned due to artesian pressure or near surface groundwater conditions
- The installation of replacement monitoring bores.
- Administrative update to six current bore names to ensure naming and number of the KMB series bores is correct.
- Administrative update of the occupier name BHP Billiton Nickel West Pty Ltd to BHP Nickel West Pty Ltd.
- Administrative amendment for the reporting requirement dates to align with other Part V licences BHP have. The updated reporting dates will be 30 September, with the annual period running from 1 July until 30 June of the immediately following year.

This amendment is limited only to changes to Category 5 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Categories 12, 54, 57, 64 or 73 have been requested by the Licence Holder.

### 2.3 Installation of new monitoring bores

Table 1 lists the bores to be decommissioned along with proposed replacement bores.

**Table 1: Decommissioned and replacement bores**

Bore Name in L6453/1990/12	Bores to be decommissioned	New replacement bores (S = shallow, D = deep, I = intermediate)
KMB08	KMB08-08, KMB08-59	KMB08S-FY23 and KMB08D-FY23
KMB10	KMB10-17, KMB10-27, KMB10-71	KMB10S-FY23 and KMB10D-FY23

KMB11	KMB11-07, KMB11-30	KMB11S-FY23 and KMB11D-FY23
KMB12	KMB12-22, KMB12-82	KMB12S-FY23 and KMB12D-FY23
KMB13	KMB13-16, KMB13-56, KMB13-67	KMB13S-FY23 and KMB13D-FY23
KMB14	KMB14-12, KMB14-53	KMB14S-FY23 and KMB14D-FY23
KMB16	KMB16-15, KMB16-61	KMB16S-FY23 and KMB16D-FY23
KMB17	KMB17-10, KMB17-60	KMB17S-FY23 and KMB17D-FY23
KMB18	KMB18-07, KMB18-44	KMB18S-FY23 and KMB18D-FY23

The decommissioning of the bores will involve the removal of bore infrastructure including PVC casing and annular material (such as gravel pack, bentonite seal and backfill). Decommissioned bores will then be cement grouted from the base of the drill hole to the surface.

The Licence Holder is also proposing to establish drill pads and sumps to manage water during drilling. It is proposed that water encountered during drilling will be managed through sumps and diverted where necessary and practical to the existing drainage for the Central Discharge Tailings Storage Facility (CDTSF) to ensure encountered waters do not enter the adjacent environment.

The Licence Holder intends for bores to be constructed close to the decommissioned bores using the drill pads from decommissioning works. Once constructed, bores will be surveyed by a qualified surveyor for vertical (top of casing) and horizontal position. A well construction report including the survey information and well construction logs will be submitted within 60 days following completion of all works associated with this programme.

Figure 1 depicts the location of bores to be decommissioned as well as replacement bores.

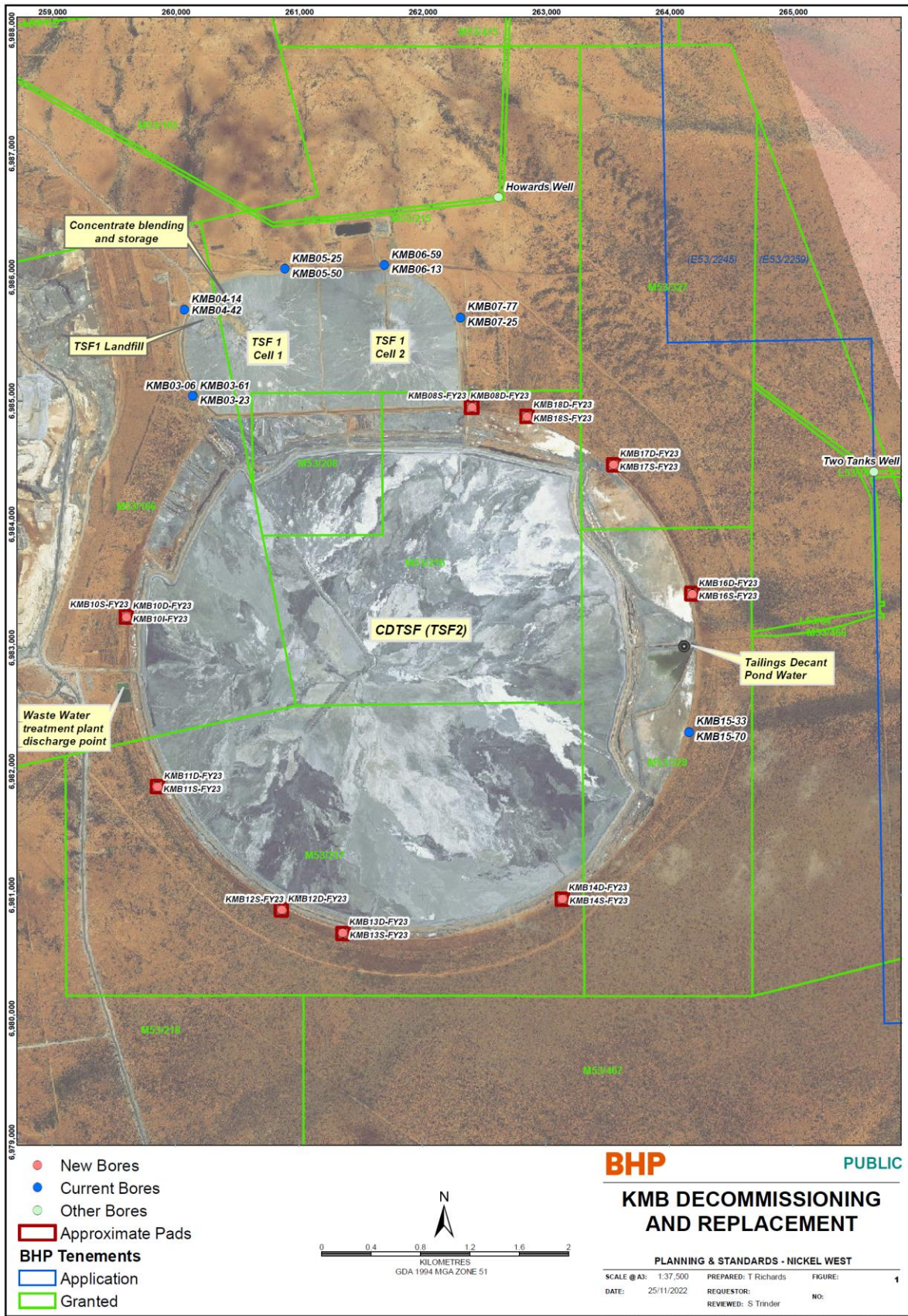


Figure 1: Decommissioned and replacement bores

### 3. 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 *Guideline: Risk assessments* (DWER 2020).

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.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 2: Licence Holder controls**

Emission	Sources	Potential pathways	Proposed controls
Dust	Equipment use on tracks and earthwork activities during drilling and pad construction	Air/windborne pathway	Dust suppression equipment available on site including water carts. Roads and tracks are regularly watered to manage dust.
Groundwater discharge to surface	Due to the artesian and near surface water conditions, it is expected water will flow at the surface during drilling. Some groundwater monitoring results has identified elevated levels of salinity/total dissolved solids (TDS).	Direct to surface from groundwater during drilling	Sumps will be constructed at the drill pad locations and water will be diverted back towards the CDTSF and into the existing water management network.

##### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), 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 3 below 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 (*Guideline: Environmental siting* (DWER 2020)).

**Table 3: Sensitive human and environmental receptors and distance from prescribed activity**

<b>Human receptors</b>	<b>Distance from prescribed activity</b>
Wanjarri Nature Reserve	Approximately 4 km to the closest boundary point (south east of the CDTSF)
<b>Environmental receptors</b>	<b>Distance from prescribed activity</b>
Surface water: Ephemeral surface drainage lines, the largest of which is Jones Creek	Ephemeral surface drainage lines, including Jones Creek, lie within the Prescribed Premises
Groundwater	Approximately 15 to 35 metres below the natural ground level of the Prescribed Premises.

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), 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 4.

The Revised Licence L6453/1990/12 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. category 5 activities.

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



**Table 4. Risk assessment of potential emissions and discharges from the Premises during construction**

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				
<b>Construction</b>								
Construction and installation of monitoring bores	Dust	Air/windborne pathway causing vegetation stress	Surrounding native vegetation	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	The proposed works will take place in the existing CDTSF area, which is a heavily disturbed area. Decommissioning and the reinstatement of bores is not expected to have adverse impacts on receptors. As the risk is Low, the Delegated Officer is satisfied no regulatory controls are required.
	Saline groundwater	Direct discharge	Surrounding native vegetation		C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Condition 2	Condition 2 has been added to the licence to ensure bores are designed and installed according to an appropriate standard. The Licence Holder is obliged under the Act to report any unauthorised discharge to the environment, should it occur during well drilling.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

## 4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

**Table 5: Consultation**

Consultation method	Comments received	Department response
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (24 January 2023)	DMIRS replied on 1 February 2023 stating that proposed monitoring bores are consistent with what has been approved under Mining Proposal Reg ID 115460 with no further comments.	Noted.
Licence holder was provided a copy of the draft amended licence on 7 March 2023.	Licence holder provided comments on 13 March 2023. Please see Appendix 1.	Please see Appendix 1.

## 5. 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.

### 5.1 Summary of amendments

Table 6 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 6: Summary of licence amendments**

Condition no.	Proposed amendments
Cover page	Licence Holder updated to reflect correct name
2	Condition 2 has been added to ensure new monitoring bores are designed, constructed and installed in accordance with appropriate standard.
3	Condition 3 has been added to ensure a construction report is submitted to DWER upon completion of installation demonstrating compliance with condition 2.
19	Monitoring of ambient groundwater quality table (Table 7) updated to remove decommissioned bores and add new bores.
22 and 25	Amended reporting requirement date to 30 September.
Definitions	Amended to change 'annual period' and include standard for monitoring bore construction
Schedule 1, Figure 2	Updated monitoring bore map to reflect new bores.

## References

1. BHP Nickel West Pty Ltd (BHP NiW) 2022, *BHP Nickel West Mt Keith Mine Licence application form and licence amendment supplementary information*, Perth, Western Australia
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

## Appendix 1: Summary of Licence Holder’s comments on risk assessment and draft conditions

Condition	Summary of Licence Holder’s comment	Department’s response
Condition 2 – Table 2	In Condition 2 (Table 2), please add “KMB18D-FY23” and “KMB10I-FY23” in the Infrastructure column. It appears to be an administrative error that these bores were left out as they were requested in our amendment. Both bores are included in the Monitoring Map Figure 2.	Error noted and bores have been added.
Condition 2 – Table 2	For the red text in Table 2 listed with ‘Licence Holder Please Confirm Timeframes’, can you please change this to “no later than 31 December 2023”. We have experienced some minor delays in rig mobilisation and on ground works so extending the completion time is needed as a contingency.	Licence updated with Licence Holder preferred timeframe
Condition 2 – Table 2	Delete the following words from the “Design, construction , and installation requirements”: <ul style="list-style-type: none"> <li>• “Well screens must target the part, or parts, of the aquifer most likely to be affected by contamination. Where temporary/seasonal perched features are present, wells must be nested, and the perched features individually screened.”</li> <li>• “Any observations of staining / odours or other indications of contamination must be included in the bore log.”</li> </ul> <p>These two requirements would be applicable for bore construction for contaminated sites / contaminated sites investigations which is not the technical objective of these bores. Additionally, all bores are separate bores for shallow / intermediary / deep and no nested bores are being constructed.</p>	<p>This is standard condition for monitoring well design, construction and installation requirements, not only for contaminated sites. The intent of the condition is to ensure the wells are positioned to identify any potential seepage that may occur including contaminants from the TSF. The site has potential to become contaminated, and if this were to occur, the bores will be in place to monitor for this.</p> <p>However, DWER understands there may be some ambiguity for this condition. Wording in this instance has been changed to: “Well screens must be set at appropriate depths to target the representative part, of parts, of the aquifer most likely to be impacted by any potential seepage”</p>

Condition	Summary of Licence Holder's comment	Department's response
		<p>The reference to nested bores will be removed. However, the wording, "Any observations of staining / odours or other indications of contamination must be included in the bore log" will remain on the licence. This condition doesn't require any action if the bore is clean.</p>
Condition 2 – Table 2	<p>Amend the following wording "Design, construction , and installation requirements":</p> <ul style="list-style-type: none"> <li>“... and classified in accordance with the Australian Standard Geotechnical Site Investigations AS1726” to replace it with “...in accordance with Minimum construction requirements for water bores in Australia, Fourth Edition, 2020.”</li> </ul> <p>This change is needed to ensure consistency with the Well design and construction requirements earlier in the condition. The geotechnical standard is not applicable.</p>	<p>Accepted – the standard has been changed to be in line with the standard the Licence Holder has requested. The intent of this condition is to ensure there is a record kept of the encountered geology during drilling. As the Licence Holder is using the <i>Minimum Construction Requirements for Water Bores in Australia, Fourth Edition 2020</i>, the Delegated Officer has accepted the reference to it in this condition also.</p>
Condition 3	<p>In condition 3, insert the word “final” and change “wells” to “well” so the condition reads “... must within 60 calendar days of the <b>final</b> monitoring <b>well</b> being constructed...”</p> <p>It is expected that the drilling programme will take in the order of 120-150 days to complete. BHP Nickel West intends to provide a single well construction report to cover all wells together at the completion of the project and specifying 60 days given the expected duration of the drilling programme would require submission of multiple (likely three) separate reports.</p>	Accepted – wording changed
Condition 19 – Table 7	<p>In Condition 19, (Table 7) please amend the units of “mbgl” (metres below ground level) to be “mAHD”.</p> <p>As per condition 2, all bores will be surveyed for vertical (TOC) position and hence mAHD should be used. Additionally, as some readings will be pressure (not SWL), mAHD allows for all measurements as mbgl can not be applicable for pressure</p>	<p>mAHD and definition have been added, however mbgl will remain as data in this unit is required to determine likely risk to vegetation surrounding the TSF.</p>

Condition	Summary of Licence Holder's comment	Department's response
Condition 19 – Table 7	In Condition 19, (Table 7) add in bore “KMB10I-FY23”. Note: KMB18D-FY23 was already correctly included.	Accepted – bore added
Condition 19 – Table 7	for ease of reading, is it possible to format the bore names in Table 7 so the dashes within bore references are non-breaking (ie: the full bore name appears on a line and commas only are used to break lines). If this can not be done, we do not want to delay waiving of the 21 days as indicated in C above so please can DWER proceed with the amendment in that case. This would then read: ... KMB08D-FY23, KMB10S-FY23, KMB10D-FY23, KMB11S-FY23 (etc)	Accepted – formatting changed
Definitions	There is a typing error on Page 14 Definitions which says “In this licence, the terms in Table 11 11 have the meanings...”. Please delete the duplicate “11”.	Accepted – error corrected

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)			
<b>Application type</b>			
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L6453/1990/1
		Relevant works approval number:	N/A <input type="checkbox"/>
Date application received	25 November 2022		
<b>Applicant and Premises details</b>			
Applicant name/s (full legal name/s)	BHP Nickel West Pty Ltd (to be amended. Current licence is BHP Billiton Nickel West Pty Ltd) – ABN unchanged. ASIC extract provided A2144940		
Premises name	Mt Keith Operations		
Premises location	Mining tenements M36/183-185, 246, 286, 288, 294, 399, 422, 467, 658, 677, M53/56-57, 165-167, 208, 215-218, 327-328, 489, General purpose lease G53/11-14 and Miscellaneous licence L36/206 (no change)		
Local Government Authority	Shire of Wiluna		
<b>Application documents</b>			
HPCM file reference number:	DWERDT692032		
Key application documents (additional to application form):	Letter of authority to sign Maps Fee calculation		
<b>Scope of application/assessment</b>			
Summary of proposed activities or changes to existing operations.	<ul style="list-style-type: none"> <li>Decommissioning of inoperable groundwater monitoring bores</li> <li>Construction of new groundwater monitoring bores</li> <li>Update licence holder name (no change in ACN) and registered address</li> </ul>		
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 (amendments only)	
Category 5: Processing or beneficiation of metallic or non metallic ore"	13,500,000 tonnes per year	No change	
<b>Legislative context and other approvals</b>			
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 type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: 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: 415 EPA Report No: 995
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	No change to Mining lease status this amendment. Documents provided to demonstrate occupier has not changed, in spite of name change.
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Mining tenure
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 Maximum required clearing 2.5ha, within clearing envelope for MS415.
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
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Licence / permit not required as bores are exclusively for monitoring
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
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, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i> )	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining Act



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 type="checkbox"/> No <input checked="" type="checkbox"/>	