Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

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

Licence Number	L4503/1975/14
Licence Holder	BHP Iron Ore Pty Ltd
ACN	008 700 981
File Number	DWERVT15779~1
Premises	Mt Whaleback/Orebody 29/30/35 and Western Ridge NEWMAN WA 6753 Legal description – Tenements E52/2009-I, ML244SA, ML244SA, ML266SA, G52/019-G52/256, G52/258-G52/274, G52/276, G52/277, G52/279, L47/92, L52/99, L52/185, L52/199, K858923 and N088235 As defined by the premises map in Schedule 1 and defined by the coordinates in Schedule 2
Date of Report	7 April 2025
Decision	Revised licence granted

Michael Greenslade Digitally signed by Michael Greenslade
Date: 2025.04.07 15:12:24 +08'00'

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

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1. Decision summary

Licence L4503/1975/14 is held by BHP Iron Ore Pty Ltd (Licence Holder) for the Mt Whaleback/Orebody 29/30/35 and Western Ridge (the Premises), located directly west of the Newman township.

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 L4503/1975/14 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 2 August 2024, the Licence Holder submitted an application to the department to amend Licence L4503/1975/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). Amendments being sought are outlined in the following sections.

This amendment is limited only to changes to Category 5 and 6 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 54, 61, 64 and 73 have been requested by the Licence Holder.

2.2.1 Changes to category 5

Implementation of dust control improvements

Condition 1 of the existing Licence requires the Licence Holder to implement a range of improvements relating to the management of dust emissions. The Licence Holder is requesting an extension to the required completion date specified in Table 1 of the licence. All items are currently required to be completed by 31 December 2024. The Applicant provided the following rationale for the proposed extensions:

1. For items 1 (OHP2 and OHP3 truck unloading hoppers) and 3 (OHP2 secondary crusher):

   The Licence Holder has advised that these works require a shutdown for safe execution. Whilst the project design phase has been completed and orders have been placed for mechanical and electrical components, the lead times have been longer than previously expected (5 months).

   As such, these will not arrive in time for the November 2024 shutdown and therefore it is more appropriate to conduct these during the March 2025 shutdown. Additionally, to ensure the controls are fully commissioned and meeting requirements of condition 3 availability, the Licence Holder requested to finalise these items during the June/July 2025 shutdown. Therefore, the Licence Holder is requesting to update the completion data for these items to 31 July 2025.

   The Licence Holder provided further correspondence on 16 December 2024, requesting that these dates for items 1 and 3 are extended until the 30 November 2025.

2. Item 2 (OHP4 screenhouse):

   Similar to above, the Licence Holder advised that while screenhouse covers have been

designed and procured, the lead time has been delayed (13 weeks). It was noted that to execute the upgrades only one screen can be completed each week (with a total 13 screens). The Licence Holder is therefore requesting to amend the completion date until 31 December 2025.

Modifications to the ambient air quality monitoring network

As part of the licence review and subsequent amendment granted on 16 January 2023, the Licence Holder was required to undertake further improvement works to manage dust emissions at the premises. On 16 January 2024, the Licence Holder submitted to the department the *Newman Dust Monitoring Network Review and Plan of Improvement Works – Fixed Plant West*.

The purpose of this plan was to identify areas of improvements to the current monitoring network. This review concluded that the majority of the monitoring stations were either fully, or as close as possible to being compliant with the siting standard but provided a list of monitors of concern. In particular, the addition and relocation of dust monitors. A summary of these improvements are provided below:

- Addition of two new BAM (PM_{10}) monitors:
  (a) "Whaleback Gatehouse" monitor located west of the Whaleback Gatehouse as required by current condition 8, Table 1 of the Existing Licence that requires the installation of "one BAM located between the fixed west plant and the Newman townsite to measure PM10"; and
  (b) "Western Ridge" monitor located to the west of the future Western Ridge operations. The Licence Holder has advised that this proposed monitor will assist in determining potential regional concentrations entering into the Newman West and future Western Ridge operations from the southwest and westerly directions.
- Adjustment of management trigger criteria and reportable event criteria associated with the Whaleback boundary monitor;
- Relocation of the following monitors;
  (a) Background monitors WBAQRT011 and WBAQRT022;
  (b) "Background 4 West" WBAQRT027; and
  (c) "Channel 2 West TLO" WBAQRT017;
- Investigate alternate location(s) for the Newman 1 Town Centre WBAQRT010 (PM_{10}) and WBAQRT023 ($PM_{2.5}$); and
- Upgrading existing monitoring equipment as follows:
  (a) Upgrade to cup and vane wind sensors to ultrasonic wind sensors. BHP has advised that this will improve functionality and reliability
  (b) Real time mode modules upgraded to ES642 units as they offer the following improvements:
    i. Inclusion of alert system to notify faults;
    ii. Automated zero calibration to minimise drift;
    iii. LCD display to allow real time observation; and
    iv. Purge system to prevent dust accumulation.

Proposed amendments to the dust monitoring network in response to the *Newman Dust Monitoring Network Review and Plan of Improvement Works – Fixed Plant West* are discussed further in section 3.3.3.

In addition to the above amendments, the Licence Holder has also requested the removal of monitor "AT796 – AT796 Stockyard". The Licence Holder advised this monitor is not an air

quality monitor (it is a sensor used by the Production team) and therefore not part of the network.

2.2.2 Changes to category 6

The Licence Holder is requesting that the assessed throughput for category 6 activities is increased from 8,000,000 tonnes per annum (tpa) to 12,300,000 tpa to accommodate the dewatering from Western Ridge. The Licence Holder advises that the total throughput will consist of a maximum of:

- 8,000,000 tpa from OB29, 30 and 35;
- 12,000,000 tpa from Western Ridge; and
- 300,000 tpa from the Whaleback Pit to the Acid Rock Drainage (ARD) Facility.

Currently, dewatering of OB29/30/35 is managed through the existing Whaleback Hub Water Supply Network which transports abstracted water across the site for reuse in mining operations. Surplus water is stored in a tank (Tank XD57) before being pumped to Ophthalmia Dam for discharge.

Category 6 was not considered under the original works approval for the Western Ridge development (W6857/2023/1) noting that the dewatering from Western Ridge will connect to the existing Whaleback Hub Water Supply Network and therefore was not considered a category 6 activity under Schedule 1 of the *Environmental Protection Regulations 1987.*

Discharge of dewatering water from the Whaleback Hub Water Supply Network to Ophthalmia Dam is an existing dewatering activity. The only change assessed under this amendment is the increase to throughput due to the additional sources (from Western Ridge).

Due to the acid forming potential within the Whaleback Pit, water abstracted from Whaleback Pit is not connected to the Whaleback Hub Water Supply Networks and is discharged directly to the ARD Facility. This is an existing activity and has been previously assessed for this facility.

2.2.3 Acid Rock Drainage Facility

Licence Holder requested changes

The Licence Holder is requesting several updates to the licence relating to the Acid Rock Drainage Facility (ARD Facility) and has advised that these do not relate to any new changes to the operation and are administrative in nature. The following changes are requested:

1. Update Table 8 (Condition 30) and Table 1 (Schedule 4) to include the disposal of stormwater to the ARD facility (which is the current practice and the reason this facility was constructed); and
2. Remove the failed ARD monitoring bore ‘WBGW014’ as suitable information can be obtained for nearby bore WBGW009.

The delegated officer’s decision on these requested changes is discussed further in section 5.

ARD Facility history

The licence was amended on 27 August 2020 to include improvement conditions related to the ARD facility as a result of monitoring data indicating increasing sulphate concentrations in groundwater downstream of the facility. The improvement conditions required the submission of a report to include:

a) Details of locations of additional monitor bores associated with the ARD facility;

b) Sampling program to be implemented for hyporheic fauna;

c) Vegetation monitoring program to assess impacts to groundwater dependent

vegetation; and

d) Details regarding the ARD Facility remediation project.

On 30 September 2020, the Licence Holder provided methodologies for hyporheic fauna and riparian vegetation monitoring for the investigation into potential seepage from the ARD facility, and potential impacts on these receptors. It was also advised that additional monitoring bores were installed for expanding the network for monitoring of groundwater level and quality at the phreatophytic vegetation along the Power Station Creek located to the north-east of the ARD facility to assess whether chemical constituents from the ARD facility are discharging to the hyporheic zone in the area.

On 14 December 2020, the department responded with recommendations regarding the methods proposed in the hyporheic fauna monitoring program.

Improvement Plan – pond relining

As part of the original Improvement Plan (2020) AMD Remediation Project, the Licence Holder made commitments to re-line the Evaporation Ponds (EP) 2 and 3 of the ARD facility to reduce any potential seepage from these ponds.

The Licence Holder has provided the independent engineering assessment of the re-lining works for EP 2 and 3 and considers that it is adequate to demonstrate that the re-lining commitments of the original Improvement Plan have been met.

DWER initiated amendment to review ARD facility

As part of the 2023-2024 Annual Audit Compliance Report (AACR) the Licence Holder advised that were indications of seepage from the facility due to the salt scaring on the surface which could have led to potential vegetation impacts.

Therefore, as part of this amendment, the delegated officer determined to review outstanding improvement commitments and investigations for the management of the ARD facility.

As part of this, the Licence Holder provided results from the hyporheic fauna and riparian vegetation monitoring programs. As part of the submission, the Licence Holder advised that the conclusions of the hyporheic monitoring are:

- Power station creek is not considered to naturally foster hyporheic conditions to any large degree, even after high rainfall in the wet season;
- The discharge from the ARD facility has created an artificial hyporheic zone within the adjacent portion of Power Station Creek. This discharge was determined to be habitable to a range of invertebrate taxa, including *Parastenocaris* that were classified as hyporheos. The invertebrate records indicate that discharge does not appear to be having a negative impact on these assemblages, which was considered a potential adverse impact during the Amendment Notice 3, granted 24 March 2020; and
- On the basis of the findings from the monitoring program completed, there is limited justification to continue the hyporheic fauna monitoring regime.

The following comments were provided for the riparian vegetation monitoring that was conducted in 2021:

- Conditional loss at the whole extent of the creek was apparent in all zones, regardless of their respective distances;
- Findings of vegetation declines were indicative of the seasonal changes observed in the bioregion; and
- Further monitoring is required to address the causation of the seepage from the facility. In response to this, the Licence Holder has provided the additional studies and investigations to address this conclusion / recommendation.

The Licence Holder has advised that once the 2023-2024 monitoring results have been finalised, any recommendations will be considered in the context of the additional studies and will influence future works for the ongoing management of the ARD facility.

Future work

As part of the declaration of the non-compliance associated with maintaining the integrity of the ARD dams and containment cells, the Licence Holder advised that proposed remedial actions for the seepage include planned works to line EP 1, 4 and 5 in addition to 2 and 3 that have been completed.

During the assessment of this amendment, the Licence Holder advised that further investigation into the process of re-lining these ponds determined that these works will result in significant loss of capacity to safely manage a rain event. The Licence Holder has advised that additional studies (as discussed below) will provide data on forecasted long term water balance for this facility. In addition, the Licence Holder has proposed an operational strategy for the use of this facility, outlining the operational strategies to manage potential impacts from the facility whilst the necessary studies are completed.

Other studies that the Licence Holder advised will continue to be conducted to improve management of the facility include:

- ARD facility study to evaluate dam and EP maintenance and upgrade requirements through water balance modelling and Quantitative Risk Assessment to inform engineering solutions, to be undertaken through 2024-2028;
- Ongoing closure studies to develop strategies to support closure of facility and mining areas, evaluated through assessments including geophysical, surveys, geotechnical and groundwater investigations;
- Continuation of environmental and contamination studies; and
- The Licence Holder has advised that they have engaged DWER accredited contaminated sites auditor to provide additional technical oversight and ensure alignment with the *Contaminated Sites Act 2003*, which includes but is not limited to:
    - Sampling and analysis plan prepared for December 2024;
    - (Opportunistic) surface water monitoring December 2024-January 2025;
    - Site Management Plan prepared mid-2025; and
    - Sulphate delineation investigation late 2025.

The Licence Holder has advised that the studies above, in addition to the ongoing environmental studies will aim to characterise the hydrogeological regime and identify if additional management controls are required e.g. additional monitoring / analytes etc. In the interim, the area will be managed through regular monitoring and inspections and the Licence Holder has committed to providing the department's Contaminated Sites Branch with regular updates either directly or through a Mandatory Auditors Report (MAR).

The delegated officer has considered this proposal and has conditioned the operation of this facility (specifying what events/stages ponds can be utilised at the facility), in line with proposed operational strategy, allow operational flexibility during times of heavy rainfall where capacity is limited, while mitigating the risk of seepage. Additional Licence Holder proposed controls such as increases to groundwater monitoring frequency during discharge to unlined ponds and a limit on pH for that discharge are also conditioned in the licence.

Current operations

The EP are filled from the dam with the prioritisation of the recently lined EP 2 and 3. The Licence Holder has advised the EP 1 is unlined and inoperable, and during high water management, EP 4 and 5 will be utilised. Table 1 indicates the current storage cells of the

facility.

Table 1: Estimated evaporation and infiltration potential from ARD Facility

Facility component	Evaporation potential annual average (ML/annum)	Infiltration potential annual average (ML/annum)
ARD Dam (unlined)	365	547
EP 1 (unlined)	255	474
EP 2 (lined)	219	0
EP 3 (lined)	219	0
EP 4 (unlined)	219	365
EP 5 (unlined)	146	255

Department assessment and review of current ARD Facility operations

The delegated officer requested advice from the department's Contaminated Sites Branch (CSB) on the results from the hyporheic fauna and riparian vegetation monitoring and the request to remove the requirement for monitoring from the destroyed bore 'WBGW014'.

Hyporheic fauna monitoring

CSB agrees with the conclusions of the hyporheic monitoring program that it is currently not producing useful results and should be discontinued. Instead, CSB recommends that groundwater monitoring near the receptor can provide information on whether the receptor is likely to be impacted due to the quality of the water. It is noted that the current site-specific groundwater guideline values were first produced from an assessment (Golder Associates, 2015) which undertook an assessment of groundwater quality of the Mt. Whaleback area for baseline comparison from sites located upgradient of the mining activities.

CSB advised that based on research (Degens *et al*, 2018), net acidity is considered the most important chemical parameter to include for potential toxicity of seepage from the ARD facility on hyporheic fauna and other downstream macroinvertebrates. As net acidity is equal to total acidity minus the alkalinity value of a water sample, it is recommended that both are included in the analytical program for monitoring bores near the facility.

Vegetation monitoring

CSB noted that many factors can adversely affect vegetation health and therefore any vegetation monitoring should be closely linked to results from groundwater monitoring to ensure that any changes to vegetation health can be directly attributable to seepage from the facility and not due to other reason. Riparian vegetation is largely able to access shallow groundwater and therefore it would be important that the groundwater quality downgradient of the ARD facility is consistent with the groundwater quality at a similar control site with riparian vegetation that is not directly downgradient of this facility.

CSB recommends that concentrations of inorganic chemical constituents in groundwater should not exceed irrigation water that are listed in the ANZECC (2000) water quality guidelines. This is particularly the case for analytes selenium, cadmium, molybdenum and mercury which have the potential to enter local food webs through vegetation uptake from water. A review of the monitoring data from the 2023-2024 Annual Environmental Report (AER) indicate that the short-term irrigation guidelines (ANZECC) are not exceeded in any of the bores for those listed constituents. The only analyte that exceeded these guidelines was cobalt in one of the downstream monitoring bores (WBGW015). The complete groundwater monitoring results from the 2023-2024 AER are presented in Table 10, Appendix 1.

Bore WBGW014

Based off the application, it is unclear that existing bores (specifically WBGW009 as suggested by the Licence Holder) are appropriately located and /or installed in a sufficient manner to replace the data gap from the destroyed bore WBGW014. Technical advice notes that the most appropriate method for selecting bore location for the purpose of detecting contamination in groundwater is by conducting a ground based geophysical investigation on transects that are undertaken using electrical and/or electromagnetic techniques that are capable of detecting salinity in contrasts.

2.2.4 Other changes

The following changes have also been requested by the Licence Holder as part of the amendment. These changes are considered to be administrative in nature as they do not alter the existing operations at the premises.

1. Request to remove the word 'contingency' from Tables 8 and 15 regarding the discharge from L3. It is advised that whilst this discharge is still the last option from this facility point, it is used more frequently than on a contingency basis, particularly in winter. No changes in process or management are proposed.
2. Request to update wording of condition 36(h) to reflect the monitoring required under condition 34.
3. Request to amend the prescribed premises boundary to include the Western Ridge development (W6857/2023/1) project, as the increase to throughput for category 6 is directly related to transfer of dewatering water from Western Ridge to the Whaleback Hub Water Supply Network for reuse and disposal.

2.2.5 DWER initiated amendments

Constructed / installed equipment

The department has received confirmation of construction for items of infrastructure/ equipment under condition 6, Table 1 of L4503/1975/14 and will remove these items as it is now considered redundant. Table 2 lists this amendment. The following has been determined to be compliant with conditions 6.

Table 2: DWER initiated amendments of constructed/installed infrastructure/equipment

Infrastructure/ equipment	Construction / installation requirements	DWER assessment
TLO	Complete the installation of ore conditioning sprays at the train load out infrastructure.	The Licence Holder provided images of the capping sprays, mechanic schematic and from the control system page. The department reviewed this and confirmed that the sprays at the train load out have been fitted with the intent to add additional moisture to the railed product and therefore can remove this item from this table.

PM_{10} monitor	One beta attenuation monitor (BAM) located between the fixed west plant and the Newman townsite to measure PM_{10} in accordance with AS3580.9.11 and sited in accordance with AS3580.1.1, for the purpose of performing as a dust management trigger monitor in accordance with condition 11. The monitor must also include an ES642 sensor for the measurement of PM_{10} over 10-minute averaging periods	The Licence Holder submitted images to demonstrate the location of the installed monitor, named "WBAQRT031 – WB Gatehouse Boundary", and a siting report to demonstrate that the location of the monitor is in accordance with standard AS3580.1.1. This siting report also confirmed the installation of the ES642 sensor.

2.3 Legislative context

2.3.1 Part IV of the EP Act

The Licence Holder referred the Western Ridge Mining Operations to the EPA on 27 January 2023 as a 'derived proposal' under Ministerial Statement 1105 (MS 1105) for the Pilbara Expansion Strategic Proposal. The EPA issued an Extract of Determination on 7 September 2023 stating that the project was a Derived Proposal under MS 1105. The Derived Proposal was signed off by the Minister of Environment on 17 October 2023. The licence throughput for category 6 of 12,300,000 tpa (with 12,000,000 tpa from Western Ridge) is consistent with the extent for dewatering and abstraction of up to 13 gigalitres per annum under the Derived Proposal.

Condition 10-2 of MS 1105 requires the proposal to be implemented to meet the following environmental objectives relating to water management:

> *Maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected, including where relevant avoiding and minimising direct and indirect impacts of the proposal, on:*
>
> - *Fortescue Marsh;*
> - *hydrological regimes that support threatened and priority ecological communities;*
> - *proclaimed Public Drinking Water Source Areas;*
> - *permanent and ephemeral rock pools;*
> - *wetlands which are Ramsar listed, or listed in the Directory of Important Wetlands in Australia;*
> - *wild rivers;*
> - *wetland types which may be poorly represented;*
> - *natural springs;*
> - *ecosystems which support conservation significant flora/ vegetation and fauna species or communities, including migratory waterbirds, bats, groundwater dependent biota and subterranean fauna; and*
> - *ecosystems which support significant amenity, recreation and cultural values.*

The Licence Holder has developed the Eastern Pilbara Water Resource Management Plan as required by MS 1105 conditions 6, 9 and 10 addressing impacts on hydrological regimes and water quality from mine dewatering activities including disposal of mine dewater. It is noted that the most recent version 8 of the Plan (BHP, 2023) is still with the department for review under Part IV. The Plan considers the discharge to dewater water to Ophthalmia Dam and impacts to

the Ethel Gorge Threatened Ecological Community (TEC) and Fortescue Marsh.

Ethel Gorge TEC

The Plan establishes trigger and threshold criteria to manage potential impacts to the stygofauna community habitat and are set to maintain hydrological conditions (ground levels and salinity) in the Ethel Gorge aquifer and TEC within acceptable historical ranges. Groundwater level and salinity are used as a lead indicators for groundwater habitat as they provide an early measure of potential changes to the stygofauna community. The Plan also sets out measures for monitoring groundwater and stygofauna (species richness and abundance).

Fortescue River hydrology

Ophthalmia Dam is situated in the Upper Fortescue River upstream of the Fortescue Marsh; a nationally important wetland. Construction of the dam in 1981 has altered the natural flow regime of the Upper Fortescue River. The Plan sets out measures for managing changes to the hydrology of the Fortescue River through controlled release from Ophthalmia Dam.

2.3.2 Rights in Water and Irrigation Act 1914

The Licence Holder holds groundwater licence GWL170659(6) which has an allocation of 13,000,000kL per annum associated with tenements AML70/244, AM70/266 and L52/199 – Western Ridge Project, which includes the dewatering activities associated with this application.

2.3.3 Public Drinking Water Source Area (PDWSA)

For the scope of this amendment, the delegated officer has considered the impacts of these activities to this receptor, specifically the increase to the dewatering and subsequent discharge into Ophthalmia Dam, noting that this discharge is an existing activity under this licence.

The prescribed premises is partially located within a Priority (P1) Public Drinking Water Source Area (PDWSA), the Newman Water Reserve, proclaimed under the *Country Areas Water Supply (CAWS) Act 1947* in 1983. The Newman Water Reserve drinking water source protection plan was prepared in 2009. A review (Newman Water Reserve drinking water source protection review) was undertaken in 2014.

Ophthalmia Dam was artificially created in 1981, with leakage through the floor of this dam considered sufficient for maintaining high aquifer levels in recent years.

The Newman town water supply comes from the Ophthalmia Dam bore field. The Licence Holder owns and operates the water supply headworks (including bore field pumps and supply mains to the raw-water treatment plant and Ophthalmia Dam). This is part of the system that allows water obtained from mine dewatering processes to be used for different purposes. The Licence Holder provides bulk treated water to the Water Corporation, which is then responsible for reticulating the water to the town. There is a memorandum of agreement between Water Corporation and the Licence Holder in place to manage the water supply system. The plan makes comment that the Newman township was established to service the surrounding mining industry which has resulted in the development of a water supply system that is connected with local mining activities. The plan recognises that this is an unusual situation where the drinking water source protection must recognise the mining activities.

Whilst the 2009 plan proposed that Ophthalmia Dam and associated waterway catchments would be removed from the Newman Water Reserve, the bores downstream of the dam were continued in use.

The 2014 plan review includes recommendation for the Licence Holder to safeguard the quality of the water recharging the aquifer drawn on by Ophthalmia Dam downstream bores by undertaking a water quality risk assessment for Ophthalmia Dam.

In addition to the boundary for the Newman Water Reserve, there are wellhead protection zones used to protect the water production bores from immediate water quality threats requiring 500

m and 300 m radius for production bores within the P1 and P3 areas respectively.

In addition to the discharge of additional dewater into Ophthalmia Dam, the delegated officer makes the following comments regarding the Acid Rock Drainage (ARD) facility which is an existing activity:

- It is noted that ARD facilities are usually considered incompatible with P1 areas. Noting this is an existing activity, the plans included recommendations for a protection strategy from operations of the ARD facility. The risk of this activity is reduced given the considerable distance from the ARD ponds to the production bores.
- It is noted that under condition 10-1 of MS1105, the Licence Holder is required to manage impacts to the proclaimed PDWSA.

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 operation which have been considered in this Amendment Report are detailed in Table 3 below. 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 pathway	Proposed controls
Dewater discharge to Ophthalmia Dam	Surplus mine water from Western Ridge dewatering	Direct discharge to surface water / infiltration to groundwater	No change to existing controls for managing discharge to Ophthalmia Dam are proposed. Discharge to Ophthalmia Dam is subject to conditions of MS 1105 which requires the implementation of the *Eastern Pilbara Resource Water Management Plan*. As described in section 2.3.1, the Plan outlines measures for managing impacts to the receiving environment including the Ethel Gorge TEC and Fortescue River. In addition to monitoring stygofauna species richness and abundance, groundwater level and salinity are used as lead indicators for detecting impacts to the Ethel Gorge TEC. Conditions of the existing licence require monitoring of the volume and quality of the discharge to Ophthalmia Dam in addition to setting limits on the volume of water authorised for discharge. Water quality monitoring data is compared to historical results to identify trends. The Licence requires that results are reported on an annual basis.

Emission	Sources	Potential pathway	Proposed controls
ARD seepage containing contaminants.	Operation of ARD facility	Seepage into groundwater and the migration of groundwater into hyporheic zones and areas of groundwater dependent vegetation	As discussed in section 2.2.3, the Licence Holder has committed to ongoing monitoring (vegetation monitoring) and additional investigations to improve the management of the facility, with the intention to reduce seepage from this facility. In addition to the completed lining of EP 2 and 3, the Licence Holder has advised that they will commence re-lining of EP 4.

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 4 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 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Closest Newman resident	• 350 m east of the prescribed premises boundary; • 1.8 km from the closest mining operations; and • 3.9 km northeast of Fixed Plant West; and • 3.5 km southeast from ARD.
Town of Newman	• 1.5 km east of prescribed premises boundary; • >5 km northeast from Fixed Plant West; and • 4.2 km southeast from ARD.
Environmental receptors	**Distance from prescribed activity**
Ethel Gorge Stygobiont Threatened Ecological Community	>8 km east from Whaleback processing area, but directly surrounding discharge location (Ophthalmia Dam)
Threatened / priority fauna	12 ecologically significant species identified within the prescribed premises.
Priority flora	6 priority flora species identified within the prescribed premises. ***Noting flora identified on DWER GIS database indicates closest occurrence approximately 3.6 km west of ARD facility – this receptor is screening out and not considered further.***

Public Drinking Water Source Area	Newman Water Reserve (Priority 1) within the prescribed premises and area of scope of this application. ***PDWSA will not be considered further as a receptor, as discussed in section 2.3.3.***
Surface water bodies	Whaleback Creek and other minor water drainage lines – located within the prescribed premises. Dry for most of the year and flowing intermittently with rainfall event. Discharge of dewater into Ophthalmia Dam and into Fortescue River.

3.2 Water quality results

Whilst noting that discharge of dewater into Ophthalmia Dam is largely managed by MS1105 under Part IV of the EP Act, and particularly the Eastern Pilbara Water Resource Management Plan, the Licence Holder provided water quality results from around the Western Ridge area to verify that introduction of the additional dewatering would not significantly impact water quality within Ophthalmia Dam. The location of the monitoring bores relevant to Western Ridge operations are shown in Figure 1. A comparison between the water quality of the past discharge into Ophthalmia Dam (from Mt Whaleback operations) is shown in Table 5 which indicates that the water quality is similar. The Licence Holder has advised that no water quality values for Western Ridge exceed the current limits outlined in Table 7 of the licence. It is noted that all hydrocarbon fractions provided for the Western Ridge water quality were below detection limits. Noting that salinity levels are tied to trigger actions as part of the management plan for the impacts to Ophthalmia Dam, the TDS levels of Western Ridge appear to be similar to that of current discharge.

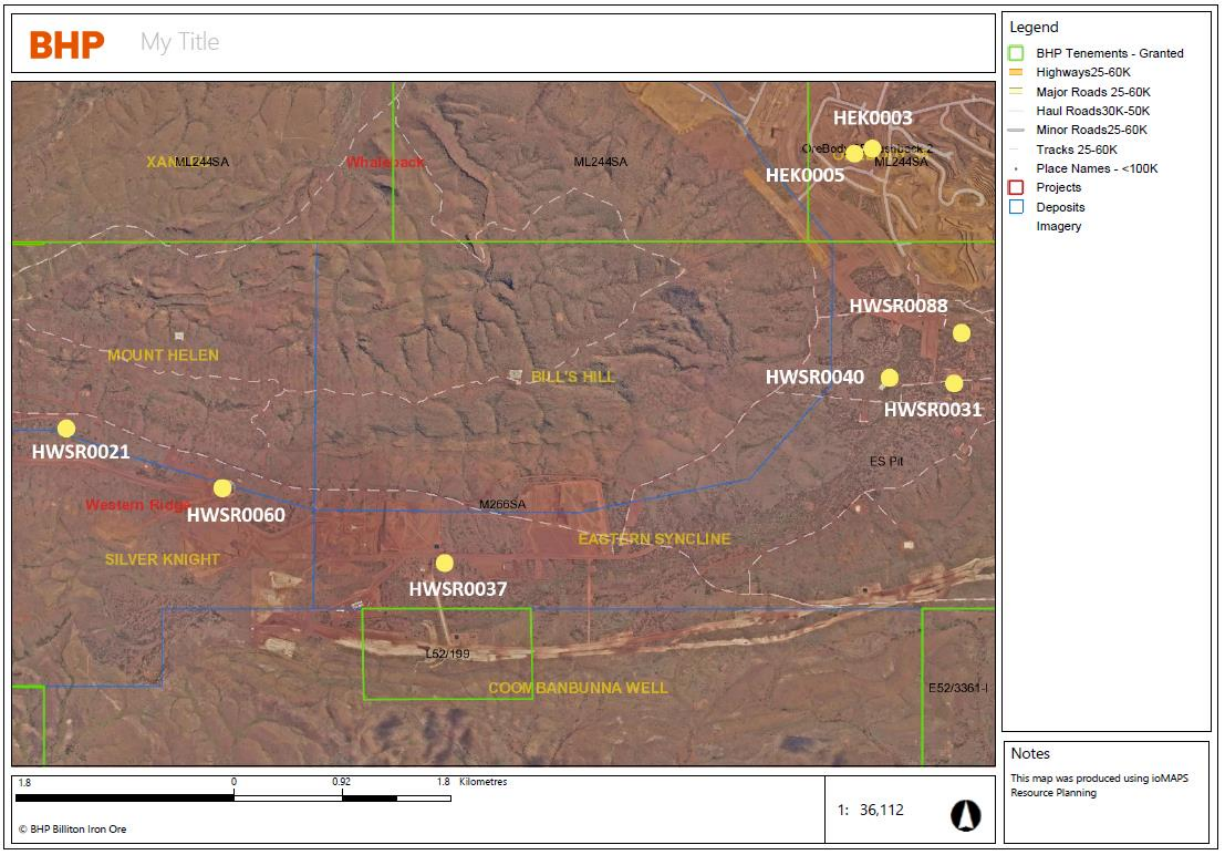

Figure 1: Western Ridge groundwater monitoring bores

Table 5: Comparison of water quality between Western Ridge and existing discharge

Monitoring location	Discharge to Ophthalmia Dam (as reported in 2023-2024 AER)				Western Ridge area		
					HWSR006P	HWSR0021	HWSR0037P
Date	11/08/2023	07/11/2023	19/02/2024	18/05/2024	28/04/2024	11/05/2024	25/08/2024
Parameter							
pH	7	6.9	7	6.9	8	8	8
TDS (mg/L)	560	540	560	540	760	690	500
TSS (mg/L)	6	<5	<5	<5	<5	<5	<5
TRH (mg/L)	<100	<100	<100	<100	-[1]	-	-
Ag (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	-	-
Al (mg/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
As (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005
B (mg/L)	0.21	0.2	0.21	0.22	-	-	-
Ca (mg/L)	60	62	65	65	63	70	64
Cd (mg/L)	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005
Cl (mg/L)	93	92	93	96	-	-	-
CO3 (mg/L)	<5	<5	<5	<5	-	-	-
COD (mg/L)	<10	<10	<10	<10	-	-	-
Cr (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005
Cu (mg/L)	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0005
Fe (mg/L)	0.005	<0.005	<0.005	<0.005	-	-	-
HCO3 (mg/L)	450	450	470	400	350	340	350
Hg (mg/L)	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
K (mg/L)	5.6	5.6	5.8	6	7	7	7
Mg (mg/L)	52	52	57	54	50	47	48
Mn (mg/L)	<0.001	<0.001	<0.001	<0.001	-	-	-
Mo (mg/L)	<0.001	<0.001	<0.001	<0.001	-	<0.001	-
Na (mg/L)	68	65	48	62	47	49	44
Ni (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
NO3 (mg/L)	0.59	0.55	0.59	0.09	<0.05	-	<0.05
Pb (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005
Se (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SO4 (mg/L)	49	52	54	55	54	58	60
Zn (mg/L)	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.001

Note 1: Values that are listed as '-' indicate that either the parameter was not measured or the value '0' was provided – noting that this may mean values below detection level.

3.3 Ambient air quality

3.3.1 Reported exceedances 2023-2024

The 2023-2024 Annual Environmental Report (AER) submitted by the Licence Holder, reported 26 exceedances at the receptor monitor (PM_{10} monitor in Newman town) that were attributed to premises activities. The department's Air Quality Branch (AQB) reviewed this data and

confirmed all exceedances reported by the Licence Holder are consistent with their data validation. AQB also determined that the Licence Holder's attribution of non-mining and mining sources was consistent.

3.3.2 Historical dust exceedance trends

The department has reviewed long term dust exceedance data trends shown in Figure 2 that indicate there have not been any definitive evidence of increase or decrease over the last two years.

Figure 2 shows the total dust exceedances recorded at the Newman 1 Town Centre (WBAQRT010) and Newman 3 Town East (WBAQRT006) (receptor ambient monitors) and dust concentrations recorded at the Whaleback boundary monitor (WBAWRT013[1]) between 2011 and 2024.

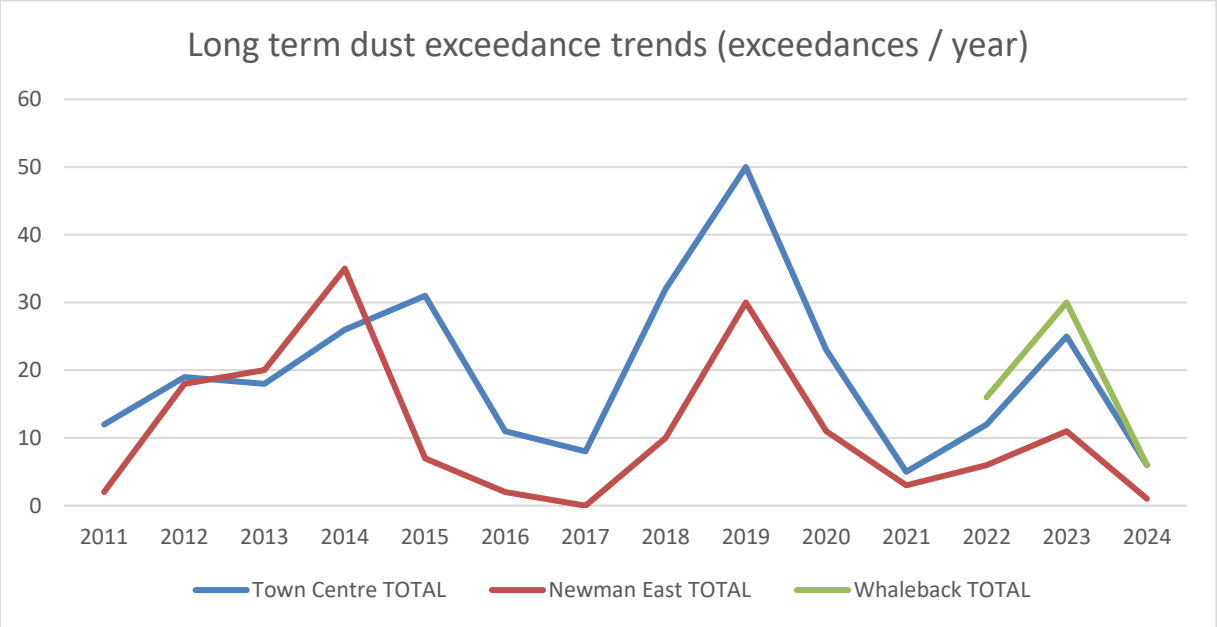

Figure 2: Total (non-mining and mining attributed) exceedances (≥ 70 ug/m^3, averaging period of 24hrs) per calendar year

Exceedances of ≥ 70 ug/m^3 (over a 24-hr average) at Newman 1 Town Centre and Newman 3 Town East for the past two financial years where the Licence Holder was considered to contribute to the exceedance are shown in Figure 3. The total exceedances (non-mining and mining attributed) is also shown for comparison (labelled Whaleback TOTAL).

[1] Note: under this licence amendment this monitor has been replaced with the new monitor "WBAQRT031 – WB Gatehouse Boundary" for the purposes of dust monitoring and management response.

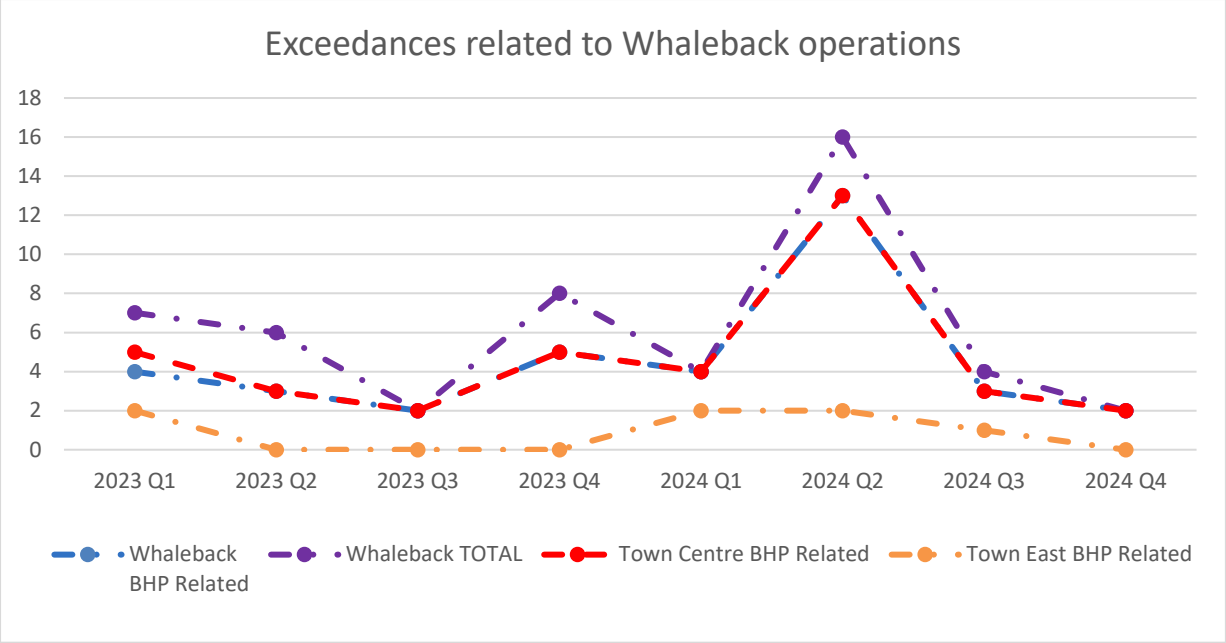

Figure 3: Dust exceedances (≥ 70 ug/m^3) values attributed to BHP operations per financial year

Observations from the exceedance reports, indicate that whilst there was a peak in Q2 2024 (Oct-Dec 2024) with 13 BHP related exceedances, there do not appear to be any conclusive trends to indicate that dust exceedances are increasing as a result of the BHP operations. No specific onsite sources were identified for the exceedances attributed to mining during this quarter and therefore no specific action was undertaken. It is noted that a combustion source (smoke) was identified as a possible contributor for 5 of the 13 exceedances and that inversion conditions and moderate to highs wind (SW/W) were also a considered significant contributing factor.

3.3.3 Technical review of proposed changes

The *Newman Dust Monitoring Network Review and Plan of Improvement Works – Fixed Plant West* was also subject to internal technical review by the department's AQB. The purpose of the review was to verify that modifications for the Newman air quality network were appropriate.

A summary of the improvements works proposed in the *Newman Dust Monitoring Network Review and Plan of Improvement Works – Fixed Plant West* and findings of the technical review are provided in Table 6 below.

Table 6: Outcomes of the Newman Dust Review and Air quality Services advice and/or recommendations.

Monitor reference	Licence Holder recommendation	Department comments / decision
Background monitors: WBAQRT004 Boundary monitors: WBAQRT012, WBAQRT013 and WBAQRT026 Town monitors: WBAQRT006 Peak/source monitors: WBAQRT018, WBAQRT020, WBAQRT021, WBAQRT024,	These monitors were determined to be suitably located and do not require relocation.	Agreed.
N/A – New monitor "Whaleback Gatehouse" "WBAQRT031"	A new BAM (PM_{10}) monitor has been installed to the west of the Whaleback Gatehouse as required by current condition 8, Table 1 of L4503/1975/14. The new monitor will replace WBAQRT013 for measuring dust concentrations against management triggers and reportable event criteria specified in condition 11 of L4503/1975/14. The location is expected to capture elevated dust concentrations associated with katabatic wind flow between Fixed West Plant and the Newman townsite. Due to the revised location, the wind arcs specified in Table 4 of L4503/1975/14 have been revised.	The addition of this new monitoring station in the vicinity of the gatehouse will provide a better coverage for dust laden air masses moving from the Fixed Plant West area. The proposed wind arcs appear reasonable as they cover the entire Fixed Plant West. The effectiveness of management trigger and reportable even criteria should be reviewed periodically as existing criteria for this site, which are based on the previous monitor (WBAQRT013) location, and might not accurately reflect the site's specific conditions.
N/A – New monitor "Western Ridge" "WBAQRT032" and name updated to "Background 4 West" to replace existing background	A new BAM (PM_{10}) monitor to be installed to the west of the future Western Ridge operations The Licence Holder has advised that this proposed monitor will assist in determining potential regional concentrations entering into the Newman West and future Western Ridge operations	The department considers that the proposed location for the new monitor appears to be well-suited for measuring regional dust that may enter the Newman West and future Western Ridge operations. The new monitoring device is suitable for measuring PM10 concentrations in

monitor	from the southwest and westerly directions.	1-hour and 10-minute intervals. Should this monitor be used as secondary monitor for determining management triggers and reportable events, specific threshold values should be chosen to accurately reflect the site's specific conditions.
WBAQRT011 and WBAQRT022	Relocation of background monitors WBAQRT011 and WBAQRT022 is proposed as the current site is impacted by Great Northern Highway. The revised location is situated approximately 700m west.	Technical review of the revised location identified some concern regarding potential impact from localised dust sources considering their positioning adjacent to a cleared (unvegetated) drill pad. Relocation of the monitors has been addressed through Licence L6942/1997/13 relating to the Eastern Ridge operations. The conditions of L6942/1997/13 (condition 8, Table 1) require impacts of localised dust sources to be managed to ensure that data is not affected.
WBAQRT017	The monitor was determined to be non-compliant with siting standards due to its location adjacent to a large shrub and rail embankment. It is proposed to relocate "Channel 2 West TLO" WBAQRT017 approximately 200 m southeast of its existing location to an area at the base of the TLO stockpiles. AQB provided comments on this original location noting that it does not appear suitable for its primary purpose which is to track high dust concentrations from the Newman Hub operations that could affect the Township of Newman. By locating the monitor at the base of the TLO stockpiles, the stockpile itself may act as a barrier, blocking dust from upwind sources. This shielding effect could lead to an underestimation of the overall dust impact, as the monitor may only capture dust generated by or near the stockpile rather than dust originating from upwind sources. This proposed location may also have limitations in meeting the secondary purpose, which is to assess emissions from the TLO stockpile, including stacking activities. Although nearby shrubs may affect dust and wind measurements, it seems to be outside the arc of	The new proposed location for this monitor is further away from the TLO stockpiles, reducing the shielding effect and allowing for better detection of dust from upwind dust sources like the Newman Hub. Whilst the monitor's proposed location if partially obscured by vegetation and the trench, the suggested site modification of elevating the monitor by 3 metres seems reasonable to mitigate these limitations to comply with the Australian siting standards. Overall, the location of this monitor appears suitable for its primary purpose of tracking elevated dust concentrations originating from the Newman Hub operations.

	influence from Newman Hub. AQB's recommendation was to relocate the monitor to a location where it can capture dust levels from a broader, more representative area, away from any elevated land such as TLO stockpiles. In response to the comments above, the Licence Holder proposed an alternative location further away from the TLO stockpiles. The proposed location will aim to move the monitor up and out of a trench to be positioned 3 m higher off the relative ground level.	
WBAQRT027 Name change from "Background 4 West" to "Western Ridge Boundary"	The monitor is currently located in close proximity to active topsoil stockpiles and subject to extraneous dust emissions associated with stockpiling and haul road movements. As such it is not considered to be representative of background conditions. It is proposed that Background 4 West WBAQRT027 relocated approximately 700 m northeast of its existing location and reclassified from 'background' to 'boundary' as the future Western Ridge operations will also be west of this monitor and therefore the location will not be suitable as an existing or future background monitor location. New monitor "WBAQRT032" will assist in determining potential regional concentrations from the southwest and westerly directions.	The department supports relocating this monitoring site to a location northeast of its current position. This relocation would help minimise the influence of localised dust sources such as topsoil stockpiles.
WBAQRT019	The monitor is appropriately sited as a peak monitor to capture emissions associated with the OHP2 Secondary crusher, located to provide early warning of high dust emissions during westerly winds.	The department agrees that relocation of the dust monitor is not required at this stage, however, noted that high of PM_{10} concentrations during very low wind speed conditions (<1m/s) have occurred indicating that dust sources other than wind erosion may be contributing to the elevated dust levels detected by this monitor. Considering its proximity to an unpaved road, it was suggested that dust generated by vehicles could be a significant factor influencing the recorded PM_{10} concentrations. Sealing of the adjacent road was recommended as this may significantly reduce dust levels affecting the monitor. During the consultation period for this amendment, the

		Licence Holder provided images that indicated that the adjacent road was sealed, and aligned with AS/NZ 3580.1.1 (the monitor being located greater than 2 m from any unsealed road).
WBAQRT010 and WBAQRT023	The review indicated that Newman 1 Town Centre WBAQRT010 (PM_{10}) and WBAQRT023 ($PM_{2.5}$) are non-compliant with relevant siting guidelines. Although this is a historic monitoring location, it is considered to no longer be suitable. The two monitors are located within an unsealed car park with a number of trees present. Compliance with AS/NZS 3580.1.1:2016 cannot be achieved due to the adjacent tree line and the monitors being subject to extraneous sources (i.e. wheel generated dust and vehicle emissions associated with the location within a carpark). The Licence Holder proposes to undertake an investigation to identify potential alternate location(s) for the Newman 1 Town Centre WBAQRT010 (PM10) and WBAQRT023 (PM2.5) regulatory monitors. The investigation will identify potential location(s) for installation of temporary PM10 nephelometers and wind sensors to collect dust and wind measurements for a period of no less than 12 months. Analysis of dust and wind data will be undertaken to compare the measurements at the alternate locations to data concurrently recoded at the existing Town Centre monitors to determine whether they are considered representative of ambient dust concentrations measured within Newman Town. Subject to the outcomes of this investigation, the Licence Holder will propose alternative locations.	The department agrees that these sites are no longer suitable to measure representative concentrations due to localised dust sources and nearby obstacles and should be relocated with Newman. The department considers that installing a PM10 nephelometers, only at a temporary site, is insufficient as they are not suitable for regulatory and compliance monitoring as it does not provide accurate concentration measurements. To ensure consistency with all neighbourhood, background and boundary monitors, it is recommended that both BAM1020 and nephelometer, along with wind sensors are installed at the temporary sites for at least 12 months.

3.4 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 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 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 7.

The Revised Licence L4513/1975/14 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

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

Table 7. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					**Risk rating[1]** **C = consequence** **L = likelihood**	**Licence Holder's controls sufficient?**	**Conditions[2] of licence**	**Justification for additional regulatory controls**
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Licence Holder's controls**				
Increase to dewatering & dewatering of Western Ridge	Discharge to land	**Pathway:** Transport to Ophthalmia Dam via pipework **Impact:** Contamination of surface water body and infiltration to groundwater	Ethel Gorge TEC Fortescue River	Refer to section 3.1.1	The delegated officer notes that impacts to the Ethel Gorge TEC and Fortescue River associated with an increase in dewatering discharge is managed under MS 1105 and the *Eastern Pilbara Water Resource Management Plan*. The existing licence includes conditions limiting the volume of water disposed of the Ophthalmia Dam and requiring monitoring of the volume and quality of water discharged. These conditions support the management commitments outlined in the *Eastern Pilbara Water Resources Management Plan* developed under MS 1105. Noting that the quality of water to be disposed to Ophthalmia Dam is within historical ranges for existing discharges, the delegated officer considers it unlikely that the additional discharge will significantly impact the overall quality of water disposed of to the dam, particularly since water quality from Western Ridge is similar to the current discharge quality (as discussed section 3.2). The delegated officer considers that conditions of MS 1105 and the licence are suitable for regulating the additional discharge.			
Operation of the ARD facility	Potentially acidic pit groundwater and stormwater from Whaleback pit	**Pathway:** Seepage through unlined cells **Impact:** Contamination of groundwater directly impacting health of fauna	Hyporheic fauna	Refer to section 3.1.1	**C =** Moderate **L =** Possible **Medium Risk**	N	Condition 21: Waste management **Condition 32: Discharge monitoring** Condition 33: pH limit for discharge **Condition 35: Groundwater monitoring** Condition 37: operational requirements for ARD Facility storage areas **Condition 38: Improvement requirements** **Condition 42: reporting**	The delegated officer has determined to assess the ongoing management of the ARD facility following on from the risk assessment undertaken in Amendment Notice 3 (granted 24 March 2020). The delegated officer has taken into consideration findings from monitoring programs (as discussed in section 2.2.3) and has re-assessed the risk rating for impacts from the ARD facility seepage to nearby receptors. It is considered that current monitoring programs have not provided conclusive information on the level of risk form the ARD facility to these receptors. In this assessment the delegated officer has factored in AACR submission that indicated salt scaring due to seepage from the facility and considered that seepage from this facility is an ongoing risk, and as recognised by the Licence Holder, require ongoing management and improvements. Therefore, the delegated officer has conditioned the requirement for the ongoing submission of the Licence Holder's commitments (in terms of pond re-lining, ongoing studies and vegetation monitoring) and including monitoring and reporting of groundwater bores constructed previously under an improvement condition. Noting internal advice from the department' CSB (section 2.2.3), the delegated officer has updated the groundwater monitoring analyte suite to include total alkalinity and acidity, to assess risks to hyporheic fauna in the absence of useful and conclusive monitoring programs. Electrical conductivity has also been added to this suite in line with the monitoring program advised by the Licence Holder during submission of Improvement Plan (30 September 2020) for new monitoring bores. Discharge monitoring of pH for inputs of potentially acidic groundwater (from Whaleback pit) has also been conditioned, to further understand the level of risk for inputs to this facility. Additionally, the delegated officer has determined that further information for the request to remove bore WBGW014 is required, noting the limited historical information on bore installation.
		Pathway: Seepage through unlined cells **Impact:** Contamination of groundwater directly impacting health of vegetation through root uptake	Riparian vegetation		**C =** Moderate **L =** Possible **Medium Risk**			
Relocation of dust monitors	Note: this does not change emission profile. Delegated officer's determination on requested changes discussed in section 5.							

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 8 provides a summary of the consultation undertaken by the department.

Table 8: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendments on 23 January 2025 and 2 April 2025.	Comments received on 27 February 2025 and 7 April 2025. Refer to Appendix 2.	Refer to Appendix 2.

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.

Implementation of dust control improvements

The delegated officer has considered the Licence Holder's request to extend the completion date to be acceptable, noting that dust exceedance trends (discussed in 3.3.1) do not appear to be indicating an increasing number of exceedance events attributed to the mining operations.

Modifications to the air quality monitoring network

The majority of improvements to the monitoring network proposed by the Licence Holder were deemed suitable (Table 6). Conditions have been applied on the licence to facilitate implementation of these improvements as outlined in Table 6, in particular the requirement to undergo an investigation to determine alternative locations for the current Town Centre monitors.

Removal of "AT796 – AT796 Stockyard" monitor

Condition 10 (Table 3) includes meteorological monitoring at "AT796 – AT796 Stockyard". The delegated officer notes that while the monitor is not purposed for monitoring ambient air quality, is it directly associated with determining "Exclusion Periods" for the purpose of applying dust control measures outline in condition 2 (Table 14). The delegated officer has therefore determined to retain this monitor in condition 10 noting that data obtained from this monitor will inform compliance with condition 2 (Table 14).

Removal of groundwater monitoring bore

As discussed in section 2.2.3, it was noted that based on current information provided by the Licence Holder and existing information on the historical monitoring bores, it cannot be confirmed whether the data collection from the destroyed bore can be replaced by any other nearby bores. Therefore, as part of the improvement requirements included for this facility, the delegated officer will request that the Licence Holder demonstrate that the remaining monitoring bores are sufficient in monitoring the gap of information from this destroyed bore, or require a replacement bore to be drilled next to the destroyed one ensuring the same aquifer is targeted when screening.

ARD Facility

Licence Holder requested amendments

The current Licence includes conditions for managing discharges to the ARD Facility such as discharge limits, containment requirements and groundwater monitoring. Disposal of dewatering water and stormwater from Whaleback Pit to the ARD Facility is an existing operation. As such, the delegated officer considers the requested changes relating to the ARD Facility (outlined in section 2.2.3) to be administrative in nature that do not alter the risk profile of the premises. Conditions of the licence have been updated to include the additional discharge volumes noting that this does not change current site operations.

Updates to groundwater monitoring program

As part of this amendment, the delegated officer has determined to include the monitoring bores installed as part of the groundwater monitoring suite for the ARD facility. As discussed in section 2.2.3, based on internal technical advice, groundwater results are considered important in detecting potential contamination that may be used as an indicator for risks to receptors (hyporheic fauna and riparian vegetation).

The delegated officer will also include additional parameters to the monitoring suite (total acidity and alkalinity) as mentioned in section 2.2.3, as this is considered a good indicator for the toxicity of the groundwater to potential hyporheic fauna.

It is noted that whilst the recommended licence limit for net acidity is >0 mg/L as $CaCO_3$ (*i.e.*, water that has a positive net acidity is potentially toxic) and the recommended net acidity trigger level for a management response is -30 mg/L as $CaCO_3$ (*i.e.*, the alkalinity of the water should exceed its acidity by at least 30 mg/L as $CaCO_3$), at this time the delegated officer does not consider the inclusion of any trigger or limit levels necessary but recommends that the Licence Holder consider these values for internal guidelines. Should monitoring results for bores close to Power Station Creek indicate these values are exceeded, additional risk assessment may be undertaken to determine the risk to hyporheic fauna.

Improvement conditions

In addition to updates to the groundwater monitoring program, the delegated officer has conditioned the proposed controls for specifying operational requirements of the storage locations at the ARD Facility, increases to groundwater monitoring frequency during discharges to unlined ponds and limits on discharge pH to unlined ponds. The delegated officer has also required that the Licence Holder submit updates as part of the Annual Environmental Report on the progress of ongoing studies to improve management of the ARD Facility.

Other changes

The delegated officer accepts that the other changes requested in section 2.2.4 are administrative in nature and do not alter the risk profile of the premises or the intent of the licence conditions. Relevant conditions have been updated accordingly.

5.1 Summary of amendments

Table 9 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 9: Summary of licence amendments

Condition no.	Proposed amendments
Cover page	Update to: • DWER file number; and • Category 6 assessed production capacity increased from 8,000,000 tpa to 12,300,000 tpa.
Throughout licence	Condition numbering updated throughout licence for inclusion of new conditions and table numbering updated for inclusion of new tables.
Condition 6 (Table 1)	The required completion date for the following items extended from 31 December 2024 to 30 November 2025: • Item 1 relating to installing tipping hopper sprays at OHP2 and OHP3 truck unloading hoppers; and • Item 4 relating to partial enclosure of the M101 shuttle transfer at OHP secondary crusher. The required completion date for Item 2 relating to the OHP4 screenhouse has been extended from 31 December 2024 to 31 December 2025.
	Addition of dust monitoring equipment which arose from Newman Dust Network Review to include: • Requirement to relocate monitor WBAQRT017; • Requirement to relocate monitor WBAQRT027; and • Installation of WBAQRT032 and requirements to submit audit of siting compliance.
	Removal of constructed / installed infrastructure and / or equipment: • TLO; and • PM_{10} monitor (i.e. WBAQRT031 – WB Gatehouse Boundary)
	Addition for requirements to install replacement meteorological station following damage and decommissioning of existing “WBWS001 – Whaleback AWS”.
Condition 8	Condition amendment to require submission of Environmental Compliance Report for items of infrastructure /equipment listed in Table 1.
Condition 9	New condition specifying the requirements of the Environmental Compliance Report.
Condition 11	New condition for the rrequirement to undertake an investigation to determine potential alternative locations for the two monitors at Newman Town Centre.
Condition 12 (Table 3)	Updated to align with improvements resulting from the *Newman Dust Monitoring Network Review and Improvement Plan* including: • inclusion of additional monitors WBAQRT031 (WB Gatehouse Boundary) and WBAQRT032 (Background 4 West); • updating the name of WBAQRT027 from “Background 4 West” to “Western Ridge Boundary” noting that this monitor has been repurposed; and • removal of WBAQRT025 – WB Met Station.
Condition 19	Noting the decommissioning of WBWS001-Whaleback AWS, have updated part (b) to reference wind speeds measured at dust monitor WBAQRT031 – WB Gatehouse Boundary.
Condition 13	WBAQRT013 replaced by the new WB Gatehouse Boundary monitor (WBAQRT031) as the primary boundary monitor. Specified wind arc relating to management trigger and

(Table 4)	reportable event criteria also update.
Condition 21 (Table 5)	Items 7 and 8 amended to included disposal by infiltration.
	Item 13 added allowing the disposal of acidic groundwater and stormwater from Whaleback Pit to the ARD Facility.
	Note 3 restricts discharge into evaporation pond 1 (P7) until such time that re-lining of the pond has occurred.
Condition 31 (Table 7)	Discharge limit for W1 (Ophthalmia Dam) increased from 8GL/year to 12/GL/year noting that the discharge volume is to be made up of the following to achieve a maximum of 12GL/year in aggregate: • a maximum of 8GL/year from OB29/30/35; and • a maximum of 12/GL/year from Western Ridge
Table 7, Table 8, Table 9 and Table 10	Note added to specify water quality monitoring parameters are for dissolved ions.
Condition 32 (Table 8)	• Inclusion of monitoring requirements for discharge of waste streams associated with Whaleback Pit in addition to monitoring for pH and specifying a limit on the volume of dewatering water from Whaleback Pit authorised for discharge; and • Inclusion of monitoring requirement for discharge of water into evaporation cells 4 and 5, with the addition of a pH limit. • Inclusion of Note 3 that specifies that monitoring for evaporation pond 1 (P7) is not required until such time that there is discharge to that pond.
Condition 32 (Table 8) and Condition 2 (Table 16)	Removal of the word ‘contingency’ when referencing discharge from ‘L3’.
Condition 33	New condition requiring the ceasing of discharge into evaporation cells 4 and 5 when pH limit is exceeded.
Condition 35 (Table 9)	Following updates to the groundwater monitoring program: • Addition of new analytes (total acidity and total alkalinity); • Electrical conductivity; • Addition of new monitoring bores (WBGW055-067, HHS0108, HHS0110); • Deletion of monitoring bore WBGW014; and • Changes to frequency for downstream of ARD Facility bores during discharge into evaporation cells 4 and 5.
Condition 37	New condition that specifies the operation of the ARD Facility, particularly describing the events in which discharge to evaporation cells 4 and 5 is acceptable.
Condition 38 (Table 11)	New condition and table for the ongoing improvement requirements to the operation and management of the ARD facility and requirement to find suitable replacement groundwater bore.
Condition 42	New condition that requires the Licence Holder to provide annual updates on the ongoing studies and management of the ARD Facility.

Schedule 1: Maps	Figures update as follows: • Figure 1 separated into three separate figures for clarity; • Maps updated to show updated groundwater and air quality monitoring network including updated wind arcs associated with dust management trigger and reportable event criteria; and • Figure references updated throughout the document.
Schedule 2: Premises coordinates	Update coordinates to match new prescribed premises boundary
Schedule 4: Infrastructure and equipment (Table 15)	Item 8 amended to specify waste streams into the ARD dams and evaporation ponds, and to prioritise evaporation ponds 2 and 3 for the storage locations where capacity allows it.
Schedule 6: File format for monitoring data	List of requirements to be included in the monitoring data amended to include recommendations from AQB during validation of 2023-2024 AER data, as communicated to the Licence Holder through direct correspondence.
Schedule 7	New schedule to include coordinates for the ambient air quality network.

6. References

1. Australian and New Zealand Environment and Conservation Council (ANZECC) 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality: The Guidelines,* Australia.
2. BHP Iron Ore Pty Ltd (BHP) 2023, *Eastern Pilbara Water Resource Management Plan version 8.0*, Perth, Western Australia.
3. BHP Iron Ore Pty Ltd (BHP) 2024, *BHP Iron Ore Annual Environmental Report, July 2023 – June 2024.*
4. Degens, B.P., Krassoi, R., Galvin, L., Reynolds, B. and Micevska, T., 2018. Net acidity indicates the whole effluent toxicity of pH and dissolved metals in metalliferous saline drainage. *Chemosphere*, **198**, 492-500.
5. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
6. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
7. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Groundwater monitoring (BHP, 2024)

Table 10: Groundwater monitoring data from bores associated with the ARD Facility during 2023-2024 reporting period

Bore	Date	pH	Redox	TDS	Al	As	Ca	Cd	Cl	Co	Cr	Cu	Fe	HCO3	Hg	Sb	Mg	Mo	Mn	Ni	Pb	K	Se	Na	SO4	S2-	Tl	U	Zn
		pH	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Internal Trigger Value		6-8.5	550	2,444	0.055	0.013	350	0.0002	501	0.001	0.001	0.006	0.05	450	0.0006	0.011	160		1.9	4.6	0.003	7	0.01	345	295				0.017
STV in irrigation water					20	2		0.05		0.1	1	5	10		0.002			0.05		2			0.05					0.1	5
WBGW009	Q1	5.8	365	4300	<0.005	<0.001	260	<0.0001	380	<0.001	0.006	<0.001	<0.001	<5	<0.00005	<0.001	400	0.003	0.003	0.001	<0.001	2.1	0.008	350	2,000	<0.1	<0.001	0.006	0.078
	Q2	No access														No	access												
	Q3	No access														No	access												
	Q4	7.1	-14	3,600	0.008	<0.001	260	<0.0001	410	<0.001	<0.001	<0.001	0.045	740	<0.00005	<0.001	360	<0.001	0.02	<0.001	<0.001	2.4	<0.001	260	1,800	0.7	<0.001	0.002	<0.005
WBGW010	Q1	Dry														Dry													
	Q2	No access														No access													
	Q3	No access														No access													
	Q4	Dry														Dry													
WBGW011	Q1	7	332	790	<0.005	<0.001	69	<0.0001	130	<0.001	0.003	0.001	<0.005	630	<0.00005	<0.001	86	0.002	<0.001	<0.001	<0.001	1.2	0.006	86	77	<0.1	<0.001	0.003	0.011
	Q2	No access														No access													
	Q3	No access														No access													
	Q4	7.4	283	800	0.008	<0.001	67	<0.0001	130	<0.001	0.002	<0.001	0.026	660	<0.00005	<0.001	80	<0.001	0.27	<0.001	<0.001	1.4	<0.001	90	18	2.7	<0.001	0.002	<0.005
WBGW014	Q1	Bore	buried													Bore	buried												
	Q2	Bore	buried													Bore	buried												
	Q3	Bore	buried													Bore	buried												
	Q4	Bore	buried													Bore	buried												
WBGW015	Q1	5.7	286	7,000	<0.005	<0.001	510	0.002	800	0.1	0.017	<0.001	0.19	<5	<0.00005	<0.001	670	<0.001	36	0.46	<0.001	3.7	<0.001	450	3,700	<0.1	<0.001	<0.001	<0.005
	Q2	6.1	325	8,100	<0.005	<0.001	500	0.002	1,300	0.18	0.056	0.002	0.77	<5	<0.00005	<0.001	890	<0.001	70	0.46	<0.001	11	0.006	600	4,500	<0.1	<0.001	<0.001	0.026
	Q3	6	445	7,000	<0.005	<0.001	600	<0.0001	7,200	0.13	0.004	0.003	0.65	<5	<0.00005	<0.001	680	<0.001	70	0.25	<0.001	6.9	<0.001	450	4,000	<0.1	<0.001	<0.001	0.007
	Q4	6	273	6,900	<0.005	<0.001	570	0.0001	760	0.14	0.002	<0.001	1.8	180	<0.00005	<0.001	710	<0.001	56	0.38	<0.001	4.2	<0.001	460	4400	<0.1	<0.001	<0.001	<0.005
WBGW016	Q1	7	301	6,900	0.007	<0.001	580	0.001	970	<0.001	0.006	<0.001	0.13	<5	<0.00005	<0.001	790	<0.001	0.55	0.009	<0.001	0.7	<0.001	310	3,400	1.3	<0.001	0.007	<0.005
	Q2	6.9	333	7,300	<0.005	<0.001	610	0.001	1,000	<0.001	0.003	<0.001	0.019	<5	<0.00005	<0.001	890	<0.001	0.48	0.01	<0.001	0.6	0.005	320	3,900	0.2	<0.001	0.006	0.007
	Q3	7	432	7,200	<0.005	<0.001	690	<0.0001	1,000	<0.001	0.001	<0.001	0.18	<5	<0.00005	<0.001	830	<0.001	0.45	0.006	<0.001	0.7	<0.001	310	3,500	3.5	<0.001	0.005	<0.005
	Q4	7.3	0	6,900	<0.005	<0.001	590	<0.0001	1,100	<0.001	0.001	<0.001	0.054	740	<0.00005	<0.001	800	<0.001	0.22	0.006	<0.001	0.9	<0.001	310	3,600	1.5	<0.001	0.004	<0.005
WBGW017	Q1	6.3	287	6,500	<0.005	<0.001	510	<0.0001	670	0.028	0.004	<0.001	0.51	<5	<0.00005	<0.001	660	<0.001	9.4	0.045	<0.001	8.3	<0.001	390	3,900	0.4	<0.001	0.003	0.05
	Q2	6.3	297	6,700	<0.005	<0.001	520	<0.0001	610	0.027	0.012	<0.001	0.44	<5	<0.00005	<0.001	690	<0.001	9.1	0.047	<0.001	9.6	0.003	400	3,700	<0.1	<0.001	0.002	0.061
	Q3	6.4	586	6,300	<0.005	<0.001	590	<0.0001	620	0.024	<0.001	<0.001	0.16	<5	<0.00005	<0.001	650	<0.001	9.2	0.04	<0.001	10	<0.001	390	3,600	1.1	<0.001	0.002	0.008
	Q4	6.4	268	6,600	<0.01	<0.002	600	<0.0002	720	0.029	0.012	0.003	<0.01	400	<0.00005	<0.002	670	<0.002	9.7	0.056	<0.002	11	<0.002	390	4000	<0.1	<0.001	0.003	0.081
WBGW018	Q1	6.5	278	7,300	<0.005	<0.001	500	<0.0001	1,200	0.011	0.013	0.001	0.31	<5	<0.00005	<0.001	790	<0.001	3.4	0.019	<0.001	5.1	0.004	490	3,500	<0.1	<0.001	<0.001	<0.005
	Q2	6.8	335	11,000	<0.005	<0.001	600	<0.0001	1,800	0.005	0.04	0.005	0.008	<5	<0.00005	<0.001	1,200	<0.001	1.1	0.029	<0.001	7.4	0.009	760	5,800	<0.1	<0.001	<0.001	0.012
	Q3	6.9	560	8,800	<0.005	<0.001	720	<0.0001	1,600	0.007	<0.001	0.002	0.18	<5	<0.00005	<0.001	1,000	<0.001	2.6	0.011	<0.001	8.3	<0.001	710	5,000	<0.1	<0.001	<0.001	<0.005
	Q4	7.2	284	9,200	<0.01	<0.002	600	<0.0002	1,300	0.003	0.014	0.004	0.052	300	<0.00005	<0.002	1,000	<0.002	0.99	0.015	<0.002	6.7	<0.002	610	4,700	<0.1	<0.002	<0.002	<0.01
WBGW019	Q1	7.1	240	6,500	<0.005	<0.001	570	<0.0001	850	<0.001	0.01	<0.001	0.051	<5	<0.00005	<0.001	760	<0.001	0.094	0.005	<0.001	1.2	<0.001	260	3,300	<0.1	<0.001	0.003	<0.005
	Q2	7	371	6,600	<0.005	<0.001	600	<0.0001	810	<0.001	0.005	<0.001	0.012	<5	<0.00005	<0.001	720	<0.001	0.067	0.005	<0.001	0.8	0.005	250	3,300	3.6	<0.001	0.006	<0.005
	Q3	6.7	525	6,700	<0.005	<0.001	670	<0.0001	810	<0.001	0.002	<0.001	0.17	<5	<0.00005	<0.001	740	<0.001	0.043	0.006	<0.001	0.8	<0.001	250	3,400	0.1	<0.001	0.008	0.015
	Q4	6.7	293	6,800	<0.01	0.003	660	<0.0002	870	<0.002	0.003	<0.002	<0.01	530	<0.00005	<0.002	740	<0.002	0.015	0.009	<0.002	0.7	<0.002	260	3700	0.1	<0.002	0.009	0.036
WBGW020	Q1	Dry														Dry													
	Q2	Dry														Dry													
	Q3	6.9	574	25,000	<0.025	<0.005	620	<0.0005	5,100	0.028	<0.005	<0.005	0.14	<5	<0.00005	Dry													
	Q4	6.9	313	21,000	<0.025	<0.005	530	<0.0005	3,700	0.028	0.034	<0.005	0.069	890	<0.00005	<0.005	2,700	<0.005	3.4	0.044	<0.005	2	<0.005	1,200	9,500	<0.1	<0.005	0.022	<0.025
WBGW021	Q1	7.3	230	8,200	<0.005	<0.001	600	<0.0001	1,200	<0.001	0.002	0.001	0.014	<5	<0.00005	<0.001	960	<0.001	0.48	0.009	<0.001	1.7	0.014	280	4,300	0.4	<0.001	0.003	<0.005
	Q2	7.3	312	7,700	<0.005	<0.001	590	<0.0001	1,000	<0.001	0.002	<0.001	0.084	<5	<0.00005	<0.001	1,000	0.001	0.033	0.013	<0.001	2.6	<0.001	310	4,300	<0.1	<0.001	0.005	0.01
	Q3	7.4	512	7,300	<0.005	<0.001	660	<0.0001	1,000	<0.001	0.001	<0.001	0.17	<5	<0.00005	<0.001	920	<0.001	0.24	0.007	<0.001	2	0.007	300	4,000	2.8	<0.001	0.006	<0.005
	Q4	7.1	297	9,200	<0.005	<0.001	700	<0.0001	1,400	<0.001	0.001	<0.001	0.096	510	<0.00005	<0.001	1,100	<0.001	0.28	0.007	<0.001	1.5	<0.001	320	4,800	1.5	<0.001	0.005	<0.005
WBGW022	Q1	Dry														Dry													
	Q2	Dry														Dry													
	Q3	Dry														Dry													
	Q4	Dry														Dry													
WBGW023	Q1	7	339	2,600	<0.005	0.002	180	<0.0001	420	0.002	<0.001	0.003	<0.005	680	<0.00005	<0.001	220	0.002	0.001	0.008	<0.001	0.4	0.005	310	930	<0.1	0.009	<0.005	0.009
	Q2	7	325	2,600	<0.005	0.002	160	<0.0001	440	0.002	<0.001	0.003	<0.005	<5	<0.00005	<0.001	240	0.002	<0.001	0.008	<0.001	0.5	0.006	300	950	<0.1	0.01	<0.005	0.01
	Q3	6.7	517	2,800	<0.005	0.002	200	<0.0001	450	0.002	<0.001	0.002	0.048	<5	<0.00005	<0.001	260	0.002	0.001	0.005	<0.001	0.5	0.001	310	1,000	<0.1	0.01	<0.005	0.01
	Q4	7	256	2,800	<0.005	0.002	160	<0.0001	460	0.002	<0.001	<0.001	0.027	640	<0.00005	<0.001	220	0.002	0.001	0.005	<0.001	0.5	0.001	290	1,200	0.1	<0.001	0.009	<0.005
WBGW041D	Q1	6.6	372	5,000	<0.005	0.001	540	0.0002	770	<0.001	0.001	<0.001	0.018	380	<0.00005	<0.001	440	0.002	0.037	0.006	<0.001	1	0.004	250	2,500	<0.1	<0.001	0.005	0.035
	Q2	6.6	311	4,500	<0.005	0.003	530	<0.0001	650	<0.001	<0.001	<0.001	0.033	<5	<0.00005	<0.001	450	<0.001	0.08	0.007	<0.001	0.8	0.004	150	2,300	0.7	<0.001	0.004	0.01
	Q3	6.9	395	4,200	<0.005	<0.001	550	<0.0001	640	<0.001	0.005	<0.001	0.14	<5	<0.00005	<0.001	430	<0.001	0.071	0.003	<0.001	1.2	<0.001	150	1,900	1.2	<0.001	<0.001	<0.005
	Q4	6.7	379	5,300	<0.005	0.002	550	<0.0001	740	<0.001	<0.001	<0.001	0.11	370	<0.00005	<0.001	510	0.002	0.006	0.004	<0.001	1.1	0.003	200	2,700	<0.1	<0.001	0.003	0.47
WBGW041S	Q1	Dry														Dry													
	Q2	Dry														Dry													
	Q3	Dry														Dry													
	Q4	Dry														Dry													
WBGW042S	Q1	6.7	361	4,100	<0.005	<0.001	720	<0.0001	690	0.002	0.005	<0.001	0.015	340	<0.00005	<0.001	170	<0.001	0.12	0.012	<0.001	1.6	0.002	300	2,000	<0.1	<0.001	0.088	0.0.1
	Q2	Dry														Dry													
	Q3	6.7	444	5,100	<0.005	<0.001	1,000	<0.0001	1,500	0.008	<0.001	<0.001	0.23	<5	<0.00005	<0.001	230	<0.001	0.9	0.012	<0.001	1.6	<0.001	460	1,800	<0.1	<0.001	0.003	0.032
	Q4	6.7	357	4,200	<0.005	<0.001	830	<0.0001	1,100	0.008	0.001	<0.001	0.15	230	<0.00005	<0.001	200	<0.001	0.58	0.011	<0.001	2.4	<0.001	330	1,700	<0.1	<0.001	0.004	0.062
WBGW043D	Q1	7	345	3,700	<0.005	0.001	300	<0.0001	780	0.006	0.002	<0.001	0.035	530	<0.00005	<0.001	370	0.001	0.005	0.005	<0.001	1.1	<0.001	340	1,600	0.5	<0.001	0.011	<0.005
	Q2	6.9	327	4,300	<0.005	0.002	320	0.0002	800	0.007	<0.001	0.009	0.012	<5	<0.00005	<0.001	410	0.001	0.002	0.002	<0.001	1.2	0.008	350	1,700	0.1	<0.001	0.011	<0.005
	Q3	6.9	453	4,200	<0.005	<0.001	340	0.0001	750	0.006	0.002	0.001	0.17	<5	<0.00005	<0.001	440	<0.001	0.01	0.01	<0.001	1.3	<0.001	360	1,900	0.1	<0.001	0.009	<0.005
	Q4	7	360	3,500	<0.005	0.001	250	<0.0001	590	0.006	<0.001	0.006	0.046	470	<0.00005	<0.001	320	0.001	0.003	0.01	<0.001	1.1	<0.001	310	1,500	<0.1	<0.001	0.07	<0.005
WBGW043S	Q1	7	346	4,400	<0.005	<0.001	320	<0.0001	850	<0.001	0.017	<0.001	0.005	400	<0.00005	<0.001	360	<0.001	0.002	0.013	<0.001	2.7	0.005	510	1,900	<0.1	<0.001	0.004	<0.005
	Q2	7	330	4,200	<0.005	<0.001	290	<0.0001	690	<0.001	0.001	<0.001	<0.005	<5	<0.00005	<0.001	340	<0.001	<0.001	0.007	<0.001	2.8	0.01	440	1,800	<0.1	<0.001	0.003	<0.005
	Q3	6.7	465	6,100	<0.005	<0.001	660	0.0002	2,800	<0.001	0.002	0.002	0.17	<5	<0.00005	<0.001	620	<0.001	0.088	0.007	<0.001	5.1	0.002	740	1,500	<0.1	<0.001	0.002	<0.005
	Q4	6.9	367	5,100	<0.005	<0.001	410	<0.0001	1,600	<0.001	0.008	0.001	0.073	350	<0.00005	<0.001	400	<0.001	0.092	0.013	<0.001	3.5	0.002	580	1,900	<0.1	<0.001	0.003	<0.005
WBGW044S	Q1	7	339	3,500	<0.005	0.001	220	<0.0001	630	0.002	0.001	<0.001	0.012	530	<0.00005	<0.001	340	<0.001	0.14	0.015	<0.001	1.9	0.003	360	1,400	<0.1	<0.001	0.005	0.071
	Q2	7	324	3,000	<0.005	<0.001	180	<0.0001	590	0.002	<0.001	<0.001	0.008	<5	<0.00005	<0.001	280	<0.001	0.078	0.011	<0.001	1.6	0.005	310	1,100	<0.1	<0.001	0.005	0.007
	Q3	6.9	458	3,000	<0.005	0.001	240	<0.0001	690	0.003	0.002	0.002	0.066	<5	<0.00005	<0.001	300	<0.001	0.15	0.009	<0.001	2.5	<0.001	320	1,200	<0.1	<0.001	0.005	<0.005
	Q4	6.9	360	3,400	<0.005	<0.001	240	<0.0001	720	0.003	<0.001	<0.001	0.044	510	<0.00005	<0.001	320	<0.001	0.11	0.016	<0.001	2	<0.001	340	1,300	0.2	<0.001	0.005	0.017
WBGW045D	Q1	7.3	342	4,400	<0.005	0.001	310	<0.0001	820	<0.001	0.002	<0.001	<0.005	360	<0.00005	<0.001	450	0.001	<0.001	0.008	<0.001	1.2	0.004	410	2,100	<0.1	<0.001	0.003	<0.005
	Q2	7	334	4,800	<0.005	0.002	280	<0.0001	850	<0.001	0.002	<0.001	<0.005	<5	<0.00005	<0.001	420	<0.001	<0.001	0.008	<0.001	1	0.01	510	2,000	<0.1	<0.001	0.004	<0.005
	Q3	6.6	455	4,500	<0.005	0.001	310	<0.0001	830	<0.001	<0.001	<0.001	0.093	<5	<0.00005	<0.001	460	<0.001	0.002	0.009	<0.001	1.1	0.003	420	2,100	<0.1	<0.001	0.003	<0.005
	Q4	6.9	360	4,700	<0.005	0.001	310	<0.0001	880	<0.001	0.006	<0.001	0.047	350	<0.00005	<0.001	450	<0.001	0.017	0.008	<0.001	1.1	0.002	430	2,000	<0.1	<0.001	0.003	0.01
WBGW045S	Q1	7	346	5,400	<0.005	0.001	320	<0.0001	1,000	<0.001	<0.001	0.001	<0.005	470	<0.00005	<0.001	510	<0.001	<0.001	0.012	<0.001	0.9	0.004	650	2,400	<0.1	<0.001	0.004	<0.005
	Q2	7.1	335	4,700	<0.005	0.002	240	<0.0001	670	0.001	<0.001	0.001	<0.005	<5	<0.00005	<0.001	360	<0.001	<0.001	0.007	<0.001	0.9	0.007	640	2,000	<0.1	<0.001	0.008	<0.005
	Q3	7	460	4,200	<0.005	0.001	230	<0.0001	940	<0.001	<0.001	0.001	<0.005	<5	<0.00005	<0.001	340	<0.001	<0.001	0.005	<0.001	1	<0.001	580	1,600	<0.1	<0.001	0.002	<0.005
	Q4	7.2	361	3,300	<0.005	0.001	200	<0.0001	570	<0.001	<0.001	<0.001	0.033	360	<0.00005	<0.001	260	<0.001	0.004	0.003	<0.001	0.7	<0.001	410	1,600	<0.1	<0.001	0.002	<0.005
WBGW046D	Q1	6.9	341	3,600	<0.005	0.002	310	<0.0001	570	0.002	0.001	0.002	<0.005	560	<0.00005	<0.001	360	0.003	<0.001	0.007	<0.001	1.1	0.001	270	1,500	<0.1	<0.001	0.011	<0.005
	Q2	6.9	335	3,500	<0.005	0.002	290	<0.0001	560	0.002	0.001	0.002	<0.005	<5	<0.00005	<0.001	360	0.002	<0.001	0.007	<0.001	1.1	0.009	250	1,400	<0.1	<0.001	0.012	<0.005
	Q3	6.8	462	3,400	<0.005	0.002	290	<0.0001	560	0.002	<0.001	0.001	0.078	<5	<0.00005	<0.001	330	0.002	<0.001	0.006	<0.001	1.1	0.003	250	1,400	<0.1	<0.001	0.01	<0.005
	Q4	6.9	291	3,500	<0.005	0.002	270	<0.0001	560	0.002	<0.001	0.001	0.045	520	<0.00005	<0.001	300	0.002	<0.001	0.006	<0.001	1.1	0.003	250	1,700	<0.1	<0.001	0.011	<0.005
WBGW046S	Q1	6.9	339	3,600	<0.005	0.002	230	<0.0001	590	0.001	0.003	<0.001	0.01	550	<0.00005	<0.001	380	0.002	0.011	0.009	<0.001	1.2	0.009	320	1,600	<0.1	<0.001	0.009	<0.005
	Q2	6.9	340	3,600	<0.005	0.002	230	<0.0001	590	0.001	<0.001	0.002	<0.005	<5	<0.00005	<0.001	360	0.001	0.047	0.01	<0.001	1.2	0.009	300	1,400	<0.1	<0.001	0.01	<0.005
	Q3	6.9	465	3,400	<0.005	0.002	220	<0.0001	590	0.001	<0.001	<0.001	0.054	<5	<0.00005	<0.001	360	<0.001	0.034	0.007	<0.001	1.2	0.003	290	1,500	<0.1	<0.001	0.009	<0.005
	Q4	6.9	298	3,700	<0.005	0.002	230	<0.0001	630	0.002	<0.001	<0.001	0.036	530	<0.00005	<0.001	380	<0.001	0.013	0.006	<0.001	1.3	0.003	300	1,700	0.3	<0.001	0.008	<0.005
WBGW047S	Q1	6.9	347	2,500	<0.005	<0.001	200	<0.0001	410	0.004	0.003	<0.001	0.02	840	<0.00005	<0.001	210	<0.001	0.43	0.006	<0.001	1	0.002	300	770	0.4	<0.001	0.005	<0.005
	Q2	7	339	1,900	<0.005	<0.001	130	<0.0001	330	0.003	<0.001	<0.001	0.017	<5	<0.00005	<0.001	170	<0.001	0.26	0.005	<0.001	0.5	0.004	260	440	0.1	<0.001	0.004	<0.005
	Q3	6.9	468	2,600	<0.005	0.002	240	<0.0001	600	0.005	<0.001	<0.001	0.068	<5	<0.00005	<0.001	220	<0.001	0.2	0.005	<0.001	0.6	<0.001	290	750	<0.1	<0.001	0.006	0.014
	Q4	6.9	307	2,600	<0.005	<0.001	260	<0.0001	600	0.003	<0.001	<0.001	0.045	690	<0.00005	<0.001	190	<0.001	0.044	0.005	<0.001	0.5	<0.001	300	820	<0.1	<0.001	0.006	<0.005
WBGW048D	Q1	6.8	261	5,800	<0.005	0.001	350	<0.0001	590	<0.001	0.006	<0.001	0.035	<5	<0.00005	<0.001	690	0.002	0.003	0.007	<0.001	0.8	<0.001	290	3,200	1.3	<0.001	0.009	<0.005
	Q2	6.8	322	5,700	<0.005	0.001	340	<0.0001	590	<0.001	<0.001	<0.001	0.008	<5	<0.00005	<0.001	710	0.002	0.003	0.007	<0.001	0.8	0.004	280	3,400	<0.1	<0.001	0.009	<0.005
	Q3	6.7	469	5,600	<0.005	0.001	680	<0.0001	580	<0.001	<0.001	<0.001	0.1	<5	<0.00005	<0.001	790	0.001	0.002	0.005	<0.001	1.2	<0.001	420	3,100	0.1	<0.001	0.009	<0.005
	Q4	6.8	301	5,800	<0.005	0.002	390	0.0001	630	<0.001	<0.001	<0.001	0.026	430	<0.00005	<0.001	670	0.001	0.002	0.006	<0.001	0.8	<0.001	290	3,100	<0.1	<0.001	0.01	<0.005
WBGW048S	Q1	7	272	5,100	<0.005	<0.001	370	<0.0001	610	<0.001	0.007	<0.001	0.009	<5	<0.00005	<0.001	550	0.001	0.01	0.005	<0.001	0.8	<0.001	290	2,600	<0.1	<0.001	0.01	<0.005
	Q2	7	325	5,200	<0.005	<0.001	390	<0.0001	690	<0.001	0.067	<0.001	0.011	<5	<0.00005	<0.001	610	0.002	0.013	0.027	<0.001	0.8	0.004	300	2,800	<0.1	<0.001	0.012	0.008
	Q3	6.8	474	6,800	<0.005	<0.001	680	<0.0001	1,700	<0.001	0.002	<0.001	0.18	<5	<0.00005	<0.001	790	<0.001	0.006	0.002	<0.001	1.2	<0.001	420	2,800	<0.1	<0.001	0.009	<0.005
	Q4	6.9	311	7,300	<0.005	<0.001	610	<0.0001	1,500	<0.001	0.003	<0.001	0.06	460	<0.00005	<0.001	690	<0.001	0.006	0.003	<0.001	1.2	<0.001	400	2,800	<0.1	<0.001	0.009	<0.005
WBGW049D	Q1	7.1	279	3,600	<0.005	0.001	180	<0.0001	410	<0.001	<0.001	<0.001	0.027	<5	<0.00005	<0.001	340	0.001	0.003	<0.001	<0.001	0.4	0.002	420	1,800	0.2	<0.001	0.004	<0.005
	Q2	7	325	5,200	<0.005	0.001	390	<0.0001	690	<0.001	0.067	<0.001	0.011	<5	<0.00005	<0.001	610	0.002	0.013	0.027	<0.001	0.8	0.004	300	2,800	<0.1	<0.001	0.012	0.008
	Q3	6.8	474	6,800	<0.005	<0.001	680	<0.0001	1,700	<0.001	0.002	<0.001	0.18	<5	<0.00005	<0.001	790	<0.001	0.006	0.002	<0.001	1.2	<0.001	420	2,800	<0.1	<0.001	0.009	<0.005
	Q4	6.8	311	6,000	<0.005	0.001	350	<0.0001	880	<0.001	<0.001	<0.001	0.031	460	<0.00005	<0.001	560	0.002	0.002	0.001	<0.001	0.6	<0.001	700	2,700	<0.1	<0.001	0.006	<0.005
WBGW049S	Q1	7.2	361	13,000	<0.025	<0.005	480	<0.0005	2,300	<0.005	0.017	<0.005	<0.025	650	<0.00005	<0.005	850	<0.005	0.097	0.018	<0.005	1.4	0.008	2,300	6,100	<0.1	<0.005	0.011	<0.025
	Q2	7	344	5,200	<0.005	0.001	280	<0.0001	760	<0.001	<0.001	0.01	<0.005	<5	<0.00005	<0.001	530	0.001	0.001	0.004	<0.001	0.6	0.005	510	2,600	<0.1	<0.001	0.005	<0.005
	Q3	6.8	478	5,200	<0.005	0.001	260	<0.0005	820	<0.001	<0.001	<0.001	0.074	<5	<0.00005	<0.001	460	0.001	<0.001	<0.001	<0.001	0.5	0.001	650	2,500	<0.1	<0.001	0.006	<0.005
	Q4	7.1	158	13,000	<0.025	<0.005	610	<0.0005	2,800	<0.005	0.071	<0.005	0.028	810	<0.00005	<0.005	920	<0.005	0.19	0.015	<0.005	3.9	0.006	2,000	4,800	3.1	<0.005	0.008	<0.025
WBGW050D	Q1	6.2	351	4,400	<0.005	0.002	430	0.0001	610	<0.001	0.001	<0.001	0.007	400	<0.00005	<0.001	460	0.002	0.002	0.007	<0.001	0.6	0.001	170	2,100	<0.1	<0.001	0.003	0.019
	Q2	6.9	336	4,700	<0.005	0.002	440	<0.0001	650	<0.001	0.001	<0.001	<0.005	<5	<0.00005	<0.001	460	0.001	0.003	0.004	<0.001	0.6	0.007	160	2,100	<0.1	<0.001	0.003	<0.005
	Q3	6.7	474	4,400	<0.005	0.002	480	<0.0001	660	<0.001	<0.001	<0.001	0.12	<5	<0.00005	<0.001	480	0.001	<0.001	0.004	<0.001	0.6	0.002	160	2,300	0.1	<0.001	0.003	0.01
	Q4	6.4	313	4,600	<0.005	0.002	480	<0.001	680	<0.001	<0.001	<0.001	0.07	370	<0.00005	<0.001	480	0.001	<0.001	0.003	<0.001	0.6	0.002	170	2,300	<0.1	<0.001	0.002	0.006
WBGW050S	Q1	Dry														Dry													
	Q2	Dry														Dry													
	Q3	Dry														Dry													
	Q4	Dry														Dry													
WBGW051D	Q1	6.9	341	4,700	<0.005	0.002	430	<0.0001	670	<0.001	0.002	<0.001	0.02	390	<0.00005	<0.001	550	0.002	<0.001	0.005	<0.001	0.2	0.005	190	2,500	<0.1	<0.001	0.003	0.016
	Q2	7	343	5,100	<0.005	0.002	420	<0.0001	670	<0.001	0.001	<0.001	<0.005	<5	<0.00005	<0.001	540	0.001	0.002	0.004	<0.001	0.3	0.009	180	2,300	0.2	<0.001	0.002	<0.005
	Q3	6.7	468	4,800	<0.005	0.002	470	<0.0001	670	<0.001	<0.001	<0.001	0.12	<5	<0.00005	<0.001	540	<0.001	0.001	0.004	<0.001	0.4	0.003	220	2,600	<0.1	<0.001	0.003	<0.005
	Q4	6.8	329	5,000	<0.005	0.002	450	<0.0001	660	<0.001	<0.001	<0.001	0.062	340	<0.00005	<0.001	550	0.001	<0.001	0.003	<0.001	0.3	0.003	180	2,500	<0.1	<0.001	0.002	0.022
WBGW051S	Q1	6.8	339	5,100	<0.005	<0.001	460	<0.0001	720	<0.001	0.005	<0.001	0.011	380	<0.00005	<0.001	510	<0.001	0.001	0.009	<0.001	1.2	0.004	360	2,600	<0.1	<0.001	0.005	<0.005
	Q2	7	352	5,200	<0.005	0.001	440	<0.0001	670	<0.001	0.001	0.002	<0.005	<5	<0.00005	<0.001	480	<0.001	<0.001	0.006	<0.001	1.3	0.009	330	2,500	<0.1	<0.001	0.005	<0.005
	Q3	6.9	474	4,900	<0.005	<0.001	440	<0.0001	710	<0.001	<0.001	<0.001	0.11	<5	<0.00005	<0.001	460	<0.001	<0.001	0.005	<0.001	1.3	0.002	330	2,600	<0.1	<0.001	0.004	<0.005
	Q4	7	329	5,000	<0.005	0.002	440	<0.0001	760	<0.001	<0.001	<0.001	0.062	340	<0.00005	<0.001	460	<0.001	<0.001	0.005	<0.001	1.1	0.002	340	2,900	<0.1	<0.001	0.005	<0.005

Note: Upstream bores
Downstream bores
Bores near Powerstation Creek

Appendix 2: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Condition 6, Table 1, row 7	The Licence Holder has advised that the road adjacent to WBAQRT019 is already sealed and does not require further remediation. The monitor has been installed in accordance with AS/NZ 3580.1.1, which requires that peak stations must be greater than 2 m from any unsealed road. This monitor is more than 2 m from the unsealed road.	The department has reviewed this information provided by the Licence Holder and determined that sealing of the road adjacent to this monitor is not required. The department has removed from Table 1.
Condition 6, Table 1, row 8	The Licence Holder has confirmed that the WBAQRT032 has been installed.	Whilst the Licence Holder has confirmed the installation of this dust monitor, as it was advised that the audit for siting compliant will not be obtained until 30 June 2025 at the earliest. Due to this, the department has retained the requirements to install this monitor in accordance with the relevant standards until such time that compliance with the standards can be confirmed.
Condition 6, Table 1, row 9	The Licence Holder has advised that the relocation of monitor (WBAQRT017) is pending approval of this licence amendment, and pending this approval, will be relocated by 30 June 2025.	Noted. Completion date has been updated to 30 June 2025.
Condition 6, Table 1, row 10	The Licence Holder has advised that the relocation of monitor (WBAQRT027) is pending approval of this licence amendment, and pending this approval, will be relocated by 30 June 2025.	
Condition 6, Table 1, footnote	The Licence Holder has provided evidence (through operation of this equipment in photographs) that the OPH5 ROM Bin Spray (SB01) works described in plan of improvement works submitted on 16 January 2024 are complete.	Noted. The department has reviewed the information provided and has confirmed that the bin sprays have been installed.
Condition 11(b)	The Licence Holder is requesting for the purpose of investigation, that the initial monitoring equipment measure PM_{10} concentrations only (not $PM_{2.5}$ as well). The PM_{10} and wind data will be compared to the data recorded concurrently at the existing town centre monitor to assess suitability. Pending the outcomes of this investigation, the suitability of the alternate monitoring locations will be subject to discussion with key stakeholders. The Licence Holder has advised that following the confirmation of the long-term suitability of this alternate location, an additional monitor will be installed to measure $PM_{2.5}$, to replicate those currently installed at the Town Centre location.	The department accepts this change, noting that the purpose of the 12-month side by side monitoring is to ensure that the location is fit-for-purpose and allow comparison of data between the new and existing site. The department considers that for this purpose, PM_{10} monitoring is acceptable.
Condition 11(c)	The Licence Holder is requesting the removal of the standard AS/NZ 3580.14 for the siting of the new location. As detailed in Note 2 of Table 3, AS/NZS 3580.14 wind speed (m/s) and wind direction (°) measurement height requirements do not apply to these monitors as they are 2.5 m (AS/NZS 3580.14 requires a height of 10 m).	In response to this request, the department has included a note against this standard (in condition 11) that specifies the same as Note 2 of Table 3 to maintain consistency throughout the licence.
Condition 11(e)	The Licence Holder has advised that the replacement monitor (to begin the investigation) is due for installation in February 2025, following approval from the Shire. The Licence Holder has advised that they will gather data for a minimum of 12 months, following which an investigation will be undertaken to determine whether the site is considered representative of ambient dust concentrations measured within Newman Town and the suitability of the location under investigation as an alternate regulatory community monitoring location. The expected completion date (pending sufficient data collection) is July 2026 (for dust monitoring).	Noted. The department accepts the proposed timeframe of the monitoring program to be completed by July 2026.
Condition 11(f)	The Licence Holder is requesting that this timeframe be changed from 60 days to 12 months. The Licence Holder has advised that a period of 12 months is requested to complete the investigation (following the 12 month data collection period). This 12 month period is required to accommodate the time required to undertaken comprehensive analyses of the dust and wind data, comparison of the measurements at the alternate monitoring location to data concurrently recorded at the existing Town Centre monitor (and extended network), associated reporting, stakeholder consultation and assessment of the suitability of the location under investigation as a long-term alternate location for the Town Centre monitors.	In follow up correspondence, the Licence Holder advised that a 6 month duration (following the 12 months of monitoring) is requested. The department considers this reasonable and has amended the condition accordingly.
Condition 12, Table 3	Upon the department's request, the Licence Holder has provided coordinates for all dust monitors.	Noted. The department has included these in the licence under new Schedule 7.
Condition 31, Table 7	The Licence Holder is requesting that a note be added to theses tables to note "*water quality monitoring parameters are for "dissolved ions"*.	The department accepts the request to add clarification to the monitoring suites.
Condition 32, Table 8		

Condition	Summary of Licence Holder's comment	Department's response
Condition 34, Table 9		
Condition 35, Table 10		
Condition 36	The Licence Holder has provided several comments and proposed changes to conditions regarding the operation and monitoring of the ARD Facility as below: 1. Removal for requirements to line Evaporation Ponds 1, 4 & 5, noting that Evaporation Pond 1 is currently under care and maintenance (C&M) and will not be used without a further amendment to the licence; 2. To support the removal of the lining of Evaporation Ponds 4 and 5, the Licence Holder has proposed the following changes: a) updating Table 8 to include the monitoring of water from ARD Facility Dam C and Evaporation Cells 2 and 3 into Cells 4 and 5 (including a pH limit); b) new condition that requires ceasing discharge into Evaporation Ponds 4 and 5 if pH levels is lower than the limit; c) updating Table 9 to increase monitoring frequency of ARD Facility Downstream bores from Quarterly to Monthly during discharge to Evaporation Ponds 4 and 5; d) new condition that specifies the manner in which the ARD Facility storage locations should be utilised. This new condition is to specify that under 'normal conditions' only discharge of RO wastewater from the power station should be directed to Evaporation Pond 4 if required (i.e. other storage locations are filled to capacity). Water from the ARD facility should only be direct to Evaporation Ponds 4 and 5 during 72hr ARI events, or for up to six months following a 72hr-ARI event (where there is limited capacity in other storage locations). The Licence Holder has advised that these changes to set out how the ARD Facility will operate will reduce potential for impact to groundwater through infiltration, prioritise the facilities evaporation potential and manage the risk associated with a 72hr-ARI event. The Licence Holder has advised that the inputs from the Yarmina and Newman RO plants has a neutralising effect on any potentially acidic water in the facility and therefore is preferentially sent to the ARD dams or Evaporation Ponds 2 and 3.	The department's response to the Licence Holder's comments are outlined below: 1. The department has accepted the Licence Holder's request to remove the requirements to line the Evaporation Ponds 1,4 & 5. Noting the comment regarding Pond 1 in C&M, the department has removed references to the discharge into Pond 1 throughout the licence. The department's determination of Ponds 4 and 5 are discussed against item 2; 2. The department has accepted all the Licence Holder's proposed changes. Whilst the department will remove the requirement to line the remaining ponds (within a certain timeframe), the department will require that as part of the ongoing improvement works to the ARD Facility, that updates of the re-lining project are provided, and should future groundwater data, or results from other investigation indicate that the new conditions are not sufficient in managing the risk of seepage from the facility, the department may consider implementing a certain timeframe for the completion of these works.
Figure 6	The Licence Holder has provided an updated figure to align with the monitoring locations in Table 3.	N/A.
Schedule 3, Table 14, row 27	The Licence Holder is requesting Table 14, row 27: Bioremediation facilities – hydrocarbon contaminated soil references the incorrect Table. The reference to Table 15 should be replaced with Table 16.	Noted, this error in referencing has been corrected.
Schedule 6	The Licence Holder is requesting the remove the department's amended requirements to Schedule 6. The Licence Holder is requesting that the requirements of this Schedule remain aligned with those of existing licence to ensure continuity in reporting. As per the requirements of Schedule 6, only validated data is reported: • No data treatments or adjustments are applied to the validated data; and • The instrumentation is operated in alignment with the relevant Australian Standards, as required by condition 12.	Following additional information provided by the Licence Holder the department has accepted the request to remove these requirements. Noting that further discussions about instrumentation limitations on dust data calculations will be considered.
AR Section 1	The Licence Holder has confirmed that the premises name is updated to 'Whaleback/Orebody 29/30/35 and Western Ridge'.	Noted.
AR Section 2.2.4	The Licence Holder has provided a new shapefile for the new proposed prescribed premises to encompass existing L4503 premises and the additional W6857 (Western Ridge).	N/A.
AR Section 2.2.5, Table 2	The Licence Holder has provided a siting report for the "*WBAQRT031-WB Gatehouse Boundary*" that demonstrates compliance for the location of monitor in accordance with standard AS3580.1.1.	The department has reviewed this information and determined that it demonstrates compliance with the requirements under Table 1. This assessment is detailed further in section 2.2.5, Table 2.
AR Section 3.3.2, Figure 2	The Licence Holder has requested clarifications on the information provided in this figure, particularly which whaleback monitor is being referred to, and whether the date reference is for calendar or financial year. There was also an identified error in the referencing of the figure number.	The department has updated the text around these figures to clearly indicate the referenced monitors and whether the date reference is for calendar or financial year.
AR Section 3.3.2, Figure 3	The Licence Holder has requested clarifications on the information provided in this figure, particularly which whaleback monitor is being referred to, and whether the date reference is for calendar or financial year.	
Comments received 7 April 2025	Minor clarifications and suggested edits to typographical errors.	Updated as required.

Appendix 3: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
Amendment to licence	☒	Current licence number:	L4503/1975/14
		Relevant works approval number:	W6857/2023/1 (Western Ridge)
Date application received	2 August 2024		
Applicant and Premises details			
Applicant name/s (full legal name/s)	BHP Iron Ore Pty Ltd (008 700 981)		
Premises name	Mt Whaleback/Orebody 29/30/35		
Premises location	**Existing premises:** Tenements E52/2009-I, ML244SA, ML244SA, G52/019-G52/256, G52/258-G52/274, G52/276, G52/277, G52/279,L47/92, L52/99, L52/185 K858923 and N088235 **Western Ridge:** Mineral Lease ML244SA, Mining Lease M266SA, Miscellaneous Licence L52/199, General Purpose Leases G52/258, G52/260, G52/261, G52/262, G52/263, G52/264, G52/265, G52/266, G52/267, G52/268, G52/270, G52/271, G52/272, G52/273, G52/274, G52/277, G52/277 and G52/279		
Local Government Authority	Shire of East Pilbara		
Application documents			
HPCM file reference number:	DWERVT15779		
Key application documents (additional to application form):	Attachment 8: scope of application		
Scope of application/assessment			
Summary of proposed activities or changes to existing operations.	See section 2.2 of this Amendment Report.		

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	80,000,000 tonnes per annual period	N/A
Category 6: mine dewatering	8,000,000 tonnes per annual period	12,300,000 tonnes per annual period
Category 54: sewage facility	183.2 m^3 per day	N/A
Category 61: liquid waste facility	9,348,600 tonnes per annual period	N/A
Category 64: Class II or III putrescible landfill site	14,500 tonnes per annual period	N/A
Category 73: bulk storage of chemicals	13,000 m^3	N/A

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 ☒ No ☐	Referred under s38.
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: 478 (OB23), 1037 and 1105
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	*Requested changes to the premises to add W6857 (also owned by Licence Holder)*
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Licence/permit No: GWL65148(11) – Whaleback Pit: allocation 6,000,000kL/annum and GWL160418(8) – Orebody 29,30 and 35: 8,000,000kL/annum
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☐	Name: Proclaimed Pilbara Surface Water/Groundwater Area Type: Proclaimed Groundwater Area/Surface Water Area
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☒ No ☒	Name: Newman Water Reserve Priority: P1 /P3 Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☒ N/A ☐ *Noting: area of activity (OHP4) is located in P1 area of reserve.*
Is the Premises subject to any other Acts or subsidiary regulations	Yes ☒ No ☐	*Iron Ore (Mount Newman) Agreement Act 1964* *Rights in Water and Irrigation Act 1914* *Dangerous Goods and Safety Act 2004*
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Classification: Contaminated – remediation required (C-RR) ; across the entire premises Date of classification: 10/12/2020