Amendment Report

Application for Licence Amendment

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

Licence Number	L4328/1989/10
Licence Holder	MARBL Lithium Operations Pty Ltd
ACN	637 077 608
File Number	DER2013/001044-1
Premises	Wodgina Operations M45/49, M45/50, M45/254, M45/353, M45/365, M45/381, M45/382, M45/383, M45/886, M45/887, M45/888, M45/950, M45/923, M45/924, M45/925, M45/949, M45/1188, M45/1252, G45/290, G45/291 and G45/321 MARBLE BAR WA 6760 As defined by the Premises map attached to the Revised Licence
Date of Report	1/07/2022
Decision	Revised licence granted

Alana Kidd

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

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1. Decision summary

Licence L4328/1989/10 is held by MARBL Lithium Operations Pty Ltd for the Wodgina Operations (the Premises), located approximately 80 km south of the town of Port Hedland.

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 L4328/1989/10 has been granted.

The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

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 Overview of Premises

The Premises was acquired by Mineral Resources Limited (MRL) in 2016 under the subsidiary Wodgina Lithium Pty Ltd (WLPL) and commenced mining spodumene in 2017. In 2019, MRL entered into a joint venture with Albemarle Corporation (Albemarle) and established the MARBL Lithium Joint Venture (MARBL JV). The MARBL JV operates as MARBL Lithium Operations Pty Ltd (Licence Holder and Works Approval Holder).

The Premises currently comprises of the following infrastructure:

- One active mining pit (Cassiterite Pit) and backfill pit (Tinstone Pit);
- One active waste rock landform (Eastern Waste Landform (EWL));
- One active tailings storage facility (TSF) cell TSF3 Expansion (TSF3E);
- Three borefields and water reservoir;
- Three mobile crushing and screening plants;
- A fixed plant;
- A wastewater treatment facility (WWTF) comprising eight lined facultative treatment ponds and five lined evaporation ponds;
- A putrescible landfill facility;
- A 64 megawatt (MW) power station;
- A reverse osmosis (RO) plant;
- Maintenance and vehicle workshops;
- Administrative offices; and
- Accommodation village and overflow village.

The Premises was placed into care and maintenance on 01 November 2019.

The Licence Holder notified the department on 27 April 2022 (MRL 2022a) of the re-commencement of operations at the Premises. It is stated that "*Preliminary works are underway to get the site into an operational state with the first mining and processing of ore scheduled for May 2022*."

2.3 Amendment summary

On 16 November 2021, the Licence Holder submitted an application (MRL 2021) to the department to amend Licence L4328/1989/10 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Transfer identified infrastructure from W6132/2018/1 to the existing licence where construction and/or commissioning documentation has been provided.
- Review of W6132/2018/1 conditions and identify any conditions that can be transferred to this licence.
- Addition of category 57 (used tyre storage) to allow of the storage of used tyres prior to final disposal within the EWL.
- Provision of additional information including:
    - A summary of the TSF3 Operational Monitoring and Mitigation Report, including the supporting Trigger Action Response Plan.
    - A summary of the Wodgina Aquatic Habitat Survey and Direct Toxicity Assessment (DTA) project.
- Amendment to the prescribed premises boundary.

In relation to the design capacity of categories on the existing Licence, this amendment is limited only to changes to category 57 activities. No changes to the aspects of the existing Licence relating to the design capacity of category 5, 52, 54, 85B and 89 activities have been requested by the Licence Holder. Other categories modifications are shown in Section 2.3.1.

Table 1 below outlines the proposed changes to the existing Licence.

Table 1: Proposed design capacity changes

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
57	N/A	500 tyres per annual period	The Licence Holder has requested that category 57 be added to the licence for the storage of no more than 500 tyres prior to disposal.

2.3.1 W6132/2018/1 infrastructure

The Works Approval Holder is authorised under works approval W6132/2018/1 - expiry date 16 May 2024, to construct infrastructure and equipment associated with the following:

Category 5:

- TSF3E;
- Decant infrastructure;
- Tailings deposition infrastructure;
- Pipeline corridor;
- Tailings delivery and return water pipelines;
- TSF3E monitoring bores;
- Beneficiation Plant consisting of three parallel trains;
- Process water pond; and

- Retentions sump (drainage water intercept basin).

Category 52:

- Power Station.

Category 54:

- WWTF Expansion.

Category 89:

- Landfill expansion.

To note: compliance documentation for the power station (category 52) and landfill expansion (category 89) have previously been assessed under the existing licence and have not been re-assessed under this licence amendment.

The Licence Holder is requesting that the following infrastructure from W6132/2018/1 which has been constructed be added to the licence during this amendment.

Beneficiation Plant (Trains 1, 2 and 3) and associated infrastructure

The Beneficiation Plant approved under W6132/2018/1 was for three (3) trains. The Works Approval Holder has constructed all three trains under W6132/2018/1, but only commissioned trains 1 and 2.

The beneficiation process consists of a common crushing circuit followed by three parallel trains of grinding, iron removal, tantalum recovery circuit, deslime, pre-flotation, flotation and spodumene concentrate dewatering. A tailings thickener is utilised for each train along with water services, air services and reagents (as shown in Figure 1).

W6132/2018/1 requires compliance documentation to be submitted to the department within 60 days of the construction of infrastructure. The following compliance documentation for the Beneficiation Plant (trains 1, 2 and 3) and associated infrastructure have been received:

- Beneficiation Plant (train 1) and process water pond, received by the department on 01 March 2019 and 05 April 2019 (MRL 2019a and MRL 2019b).
- Beneficiation Plant (train 1) tantalum recovery circuit, received by the department on 09 May 2019 (MRL 2019c).
- Beneficiation Plant (train 2), received by the department on 27 May 2019 (MRL 2019d).
- Tantalum storage area and purpose built shed for the tantalum bagging machine, received by the department on 09 May 2019 (MRL 2019c) and 27 May 2019 (MRL 2019d).
- Purpose built spodumene concentrate shed, received by the department on 27 May 2019 (MRL 2019d).
- Beneficiation Plant (train 3), received by the department on 13 December 2019 (MRL 2019f).
- Retention sump (drainage water intercept basin), received by the department on the 13 December 2019 (MRL 2019f).

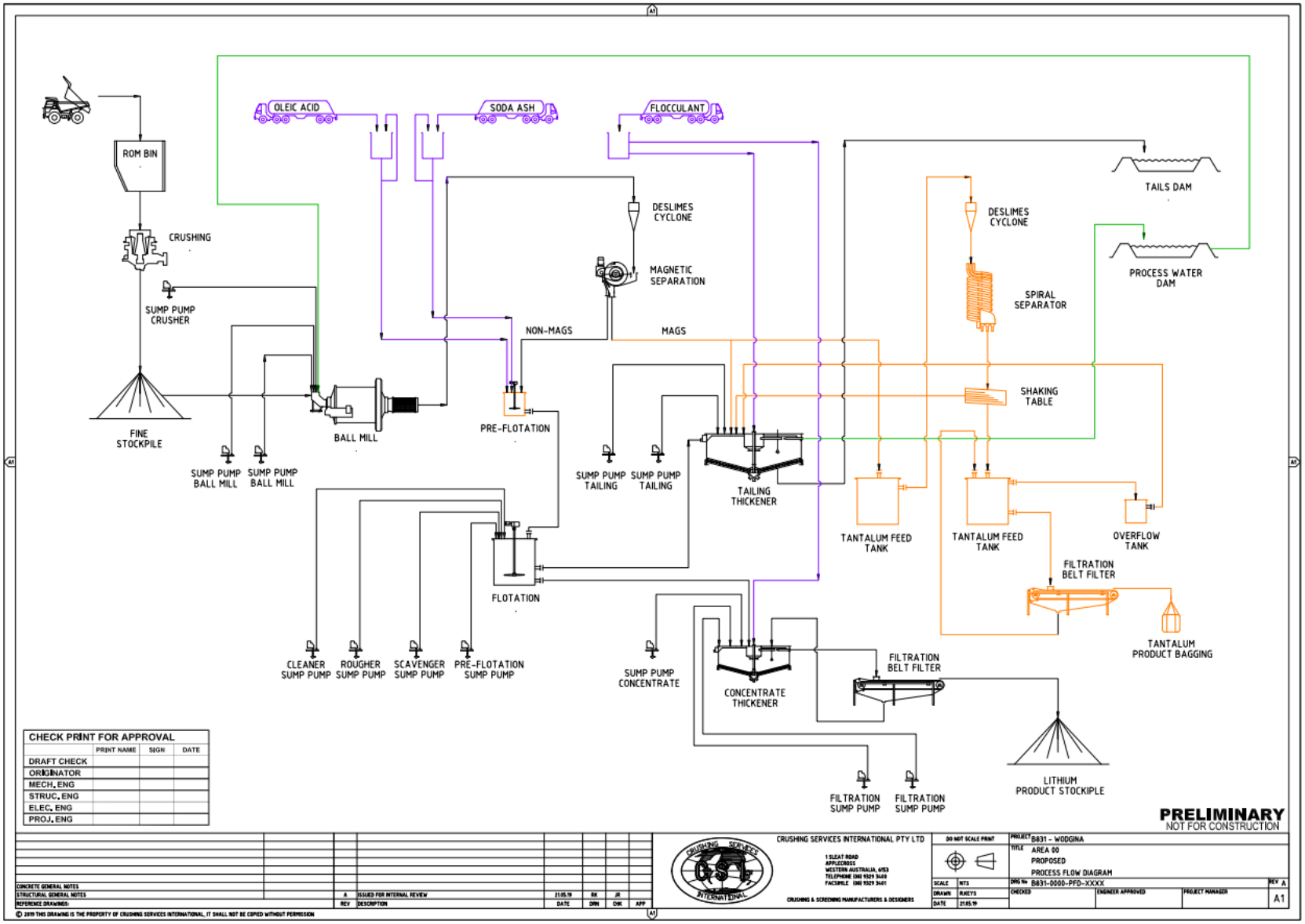

Figure 1: Beneficiation Plant processing circuit

The Licence Holder notified the department on 20 June 2022 (MRL 2022b) of the re-commencement of Train 2 at the Premises. Train 2 is scheduled to commence re-commissioning in the week commencing 20 June 2022.

The following should be noted in relation to the Beneficiation Plant (train 3):

- The requirement to implement engineering controls (to direct stormwater towards the retention sump for recycling back to the process circuit) has not yet been completed. This construction requirement will be conditioned under this amended licence.
- Commissioning was not undertaken under W6132/2018/1. Train 3 will be authorised to operate under this amended licence.

Refer to Tables 3 and 5 for the Licence Holder's proposed controls and the department's risk assessment of the Beneficiation Plant and associated infrastructure (process water pond, retention sump and tantalum and spodumene storage areas).

Refer also to Appendix 1 which provides a review of W6132/2018/1 conditions, department's determination and actions.

TSF3E

The iron removal magnetics, deslime cyclone overflow (slimes) and flotation tailings from each train is dewatered in a thickener prior to being pumped to TSF3E.

Tailings thickener overflow is returned to the common process water circuit for re-use within the plant process water circuit. Decant water is returned to the process water pond for reuse in the processing water circuit.

The compliance document for TSF3E including the decant infrastructure was received by the department on 01 March 2019 (MRL 2019e, which includes CMW 2018).

It should be noted that the TSF3E monitoring bores requirement was also included in the above compliance document, though no additional bores were constructed. *MRL 2019e* states "*A meeting held with DWER and MRL in February 2019 concluded that sufficient monitoring bores currently existed to sufficiently monitor potential seepage from the TSF3 expansion*."

The compliance document for the following infrastructure was received by the department on 01 March 2019 (MRL 2019a):

- Tailings deposition infrastructure;
- Pipeline corridor;
- Tailings delivery pipelines (2) from Beneficiation Plant to TSF3E; and
- Return water pipeline (1) from TSF3E to process water pond.

Refer to Tables 3 and 5 for the Licence Holder's proposed controls and the department's risk assessment of TSF3E and its associated infrastructure.

WWTF Expansion

The WWTF accepts macerated sewage from the mine camp treating it using six facultative ponds prior to discharging via gravity flow to three 3,000 m^3 evaporation ponds.

The facultative ponds conduct biological treatment of wastewater, by which aerobic microorganisms break down organics from the wastewater and anaerobic microorganisms break down organics in solids settling in the bottom of the ponds.

Sludge is removed by an approved contractor and disposed offsite at a licensed waste disposal facility.

Under W6132/2018/1, the WWTF was expanded. The compliance document was received by

the department on 13 December 2019 (MRL 2019f).

Refer to Tables 3 and 5 for the Licence Holder's proposed controls and the department's risk assessment of the WWTF expansion.

Refer also to Appendix 1 which provides a review of W6132/2018/1 conditions, department's determination and actions.

2.3.2 Review of W6132/2018/1 conditions

The Licence Holder has requested that conditions from W6132/2018/1 be reviewed and where applicable be transferred to the licence during this amendment. See Appendix 1 for the department's determination and actions for W6132/2018/1 conditions.

2.3.3 Additional of category 57 for used tyre storage

The Licence Holder is currently authorised to dispose of up to 500 tonnes per annum (tpa) of used tyres within the EWL area. To allow for multiple tyre disposal cells to be constructed within each lift of the EWL, the Licence Holder proposes to establish temporary storage areas for used tyres prior to disposal to the EWL. The temporary used tyre storage areas will be located as shown in Figure 2 - Area 1: on top of TSF2; Area 2 and Area 3: on TSF3.

Refer to Tables 3 and 5 for the Licence Holder's controls and the department's risk assessment for this activity.

Figure 2: Proposed used tyre storage locations

2.3.4 Submission of other information

Aquatic Habitat Survey

The Licence Holder provided a summary of the Aquatic Habitat Survey (MRL 2021), which is in relation to W6132/2018/1 condition 7 outlined below:

Condition 7: *Within 6 (six) months of the issue of this Works Approval, the Works Approval Holder must provide to the CEO a report on the groundwater and surface water environment which must include:*

(a) *A hydrogeological characterisation of the groundwater environment beneath Tailings Storage Facility 3, Tailings Storage Facility 3 expansion, Wastewater Treatment Facility, beneficiation plant area and the Wodgina pit void.*

(b) *Detail any interactions between groundwater and surface water systems at the Premises.*

(c) *Determine and provide the baseline groundwater and surface water conditions. Provide information on the groundwater levels and concentration of aluminium, arsenic, cadmium, chromium, copper, iron, lead, selenium, mercury, nickel, zinc, manganese, silicon, cobalt, potassium, magnesium, sodium, total nitrogen, calcium carbonate, calcium, lithium, caesium, rubidium, uranium, thorium, fluoride, thallium, chloride, bromide, sulfate, total phosphorus, total dissolved solids, pH, electrical conductivity, total recoverable hydrocarbons.*

(d) *Detail potential groundwater and surface water pathways from the Tailings Storage Facility 3 expansion, Wastewater Treatment Facility, beneficiation plant area and Wodgina pit void to determine risk to receptors.*

(e) *Presentation of a conceptual site model.*

(f) *Presentation of groundwater contours for the site.*

(g) *Review and propose groundwater monitoring locations in consultation with a qualified hydrogeologist.*

(h) *Propose an appropriate surface water monitoring program in consultation with a qualified hydrologist.*

The Works Approval Holder submitted an initial response to address this condition to the department on 04 December 2018 (DWER reference A1745289). The department responded on 24 January 2019 (DWER reference A1758759) for the Hydrogeological Characterisation Report; and 06 March 2019 (DWER reference A1769954) for the Expanded Surface Water Assessment (ESWA).

The Works Approval Holder provided additional information (groundwater component only) on 01 March 2019 (DWER reference A1772257); and a revised Wodgina Surface Water Management Plan (SWMP) on 09 July 2019 (DWER reference A1804099).

Within the revised SWMP the Works Approval Holder included the following commitments:

- to undertake an aquatic habitat survey (in 2020);
- to review the surface water monitoring network and establish a surface water sampling program to address temporal variability, an expanded suite of contaminants and biotic indicators; and
- to incorporate sediment chemistry analysis.

The department responded on 18 November 2019 (DWER reference A1842782) advising that

as a result of the outstanding actions, condition 7 was partially compliant.

The Licence Holder provided the *Wodgina Lithium Project Aquatic Fauna Habitat Survey* (MRL 2022b) on 20 June 2022. The department will review this Aquatic Habitat Survey outside of this licence amendment (refer also to Appendix 1 W6132/2018/1 Condition No.7).

DTA

The Licence Holder provided a summary of the DTA (MRL 2021), which is in relation to W6132/2018/1 condition 8 outlined below:

Condition 8: Within 12 months of the issue of the Works Approval, the Works Approval Holder must undertake a direct toxicity assessment (DTA) in accordance with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ 2000). The DTA must:

(a) use local aquatic species found downstream of TSF3;

(b) determine the acute and/or chronic toxicity of fluoride, lithium and thallium in tailings pore, decant or seepage water;

(c) be used to derive a set of site specific trigger values for fluoride, lithium and thallium for protection of onsite aquatic ecosystems.

Following the DTA, the Works Approval Holder must propose management actions to be undertaken in response to an exceedance of derived trigger values.

The Works Approval Holder provided a progress memorandum to the department, which was received on 20 November 2018 (DWER reference A1740901). The department responded on 07 December 2018 (DWER reference A1746417).

On 18 November 2019 the department advised the Works Approval Holder that further work was required to undertake DTA and to establish site-specific trigger values for specified contaminants (DWER reference A1842782).

The department assessed condition 8 and was of the opinion that understanding groundwater-surface water interactions at the Premises and establishing site-specific trigger based on DTA to be important considerations for the environmental risk assessment. Availability and completeness of this data are key in determining impacts associated with ongoing operations at the Premises.

During this amendment, W6132/2018/1 condition 8 will be added to the licence requiring the Licence Holder to submit this information to the department by 30 April 2023.

TSF3 Operational Monitoring and Mitigation Report

The Licence Holder provided a summary of the Wodgina TSF3 Operational Monitoring and Mitigation Report (the Report), including the supporting Trigger Action Response Plan (MRL 2021). This is in relation to W6132/2018/1 conditions 25 and 26 outlined below:

Condition 25 After 15 December 2019, for any monthly average seepage and/or decant water recovery in exceedance of the designed technical specifications outlined by the CMW TSF3E Report – Technical Specification, notification must be provided to the CEO within 48 hours of the information becoming available.

Condition 26 For any notification submitted in accordance with Condition 25, the Works Approval Holder must, within 14 days of that notification, provide a report to the CEO detailing the control measures implemented and date, and a timeframe for meeting design specifications.

The Licence Holder has stated the following (MRL 2021):

- "*Reference to the CMW Design Report as a tool for demonstrating seepage*

performance of TSF3E is incorrect.

- *The purpose of the estimated seepage value referenced in the CMW Design Report (100 m^3/day) is to calculate a Factor of Safety (FoS) to support a geotechnical risk assessment of the facility and is not intended as a tool to assess the potential risk from seepage to the receiving environment."*

The Licence Holder has requested that condition 25 be amended to refer to the Report and Trigger Action Response Plan for management of TSF3/3E seepage.

The Licence Holder should note that under this licence amendment changes to existing works approval conditions will not be made. The department will assess each condition and determine suitability or completion for inclusion on the licence.

In regards to the Report, the department notes that the following monitoring strategy is proposed for the Premises (up to the cessation of operations):

- Monitoring of TSF3 and TSF3E bore water levels and water quality. The bores are subdivided into the following categories:
    - Primary bores – key bores (TSF1, TSF2, MB3 and TSF3 MB Ext) located within the main drainage pathway immediately downstream of TSF3 and TSF3E. These bores will be the primary indicators of seepage from TSF3 and TSF3E
    - Recovery bores – bores (RB1, RB2, RB3 and RB4) located to the north of the TSF3 toe that are equipped with dewatering infrastructure.
    - Secondary bores – bores (MB2A, RB3M, MB1, TSF3, TSF4, TSF5, TSF6, TSF7 (new bore), PZ19TSF302, PZ19TSF303 and PZ19TSF304) located on the flanks of the main groundwater flow pathway from TSF3 and TSF3E, and some bores located within the main seepage pathway (where these are adjacent to, and covered by, Primary bores). These bores are designed to provide a less frequent but more extensive indication of the distribution of water quality away from the main seepage pathway.
    - Downstream bores – bores (TSF8 (Path2MB) (new bore) and TDNE6a) located some distance downstream of TSF3 along the two identified groundwater flow pathways.

During this amendment the following bores have been added to the ambient groundwater quality monitoring schedule: TSF2, TSF3, TSF4, TSF5, PZ19TSF302, PZ19TSF303, PZ19TSF304 and TDNE6a.

The Licence Holder has proposed the following monitoring and trigger response actions as shown in Table 2.

Table 2: Proposed monitoring and trigger response actions

Monitoring	Trigger for Action	Action
Water Levels – TSF3 Bores (Primary and Secondary)	Water levels within 6 m of surface	• Investigation of cause • Monitoring frequency increased to fortnightly to support investigation
	Water level within 4 m of surface	• Pumping from RB2 and RB3 until water levels decline to below 6 m for at least 1 month • Monitoring frequency maintained at fortnightly
	Water levels remains within 6 m of surface for 1 month	• Pumping from RB1 and RB4 (as well as RB2/RB3) and continue until water levels decline below 6 m to for at least 1 month • Monitoring frequency maintained at fortnightly
Water levels – TSF3 MB EXT	Water levels within 6 m of surface	• Investigation of cause • Monitoring frequency increased to fortnightly to support investigation
Water Quality – TSF3 Bores (Primary - TSF1, TSF2, MB3)	Increase in key water quality parameters (>50% of average over previous year)	• Investigation of cause • Pumping from RB2 and RB3 until key water quality parameters is <50% of average over previous year for 3 consecutive months
	Pumping from RB 2 and RB 3 does not result in key water quality parameters returning to <50% of average over previous year for 3 consecutive months	• Pumping from RB1 and RB4 (as well as RB2/RB3) until water quality in bores is <50% of average over previous year for 3 consecutive months
	Pumping from RB 1 to 4 does not result in key water quality parameters returning to <50% of average over previous year for 3 consecutive months	• Commissioning of additional recovery bores and pumping of all bores until water quality in bores is <50% of average over previous year for 3 consecutive months
Water Quality – Downstream Bores (Path2MB and TDNE6a)	Increase in Lithium concentration to ≥1.5 mg/L	• Repeat sampling to confirm concentrations of Lithium and other parameters • Investigation to confirm seepage arrival at these bores
	Seepage arrival at Downstream Bores confirmed by investigation	• Commission of, and pumping from new recovery bores at locations between TSF3 and the Downstream Bores (to be confirmed in investigation)

The department has not conditioned the monitoring and trigger response actions under this licence amendment. The Licence Holder will be required to submit a report three months from the date of this licence amendment and again following six consecutive months of operation of Train 1 and Train 2. Refer to Appendix 1 W6132/2018/1 Condition No.18.

Based on the monitoring data provided, the department may amend the licence to include triggers and/or limits for water levels and ambient groundwater quality.

2.3.5 Expansion of the prescribed premises boundary

The Licence Holder is requesting that the premises boundary be expanded under this licence amendment to support upcoming Part V of the EP Act and *Mining Act 1978* approvals related to the Atlas project area.

To note: no activities associated with the Atlas project have been assessed under this licence amendment.

During this amendment the following tenements are to be included: M45/49, M45/254, M45/365, M45/888, M45/950, M45/924, M45/949, M45/1188, G45/290, G45/291 and G45/321. All tenements besides M45/1188 and M45/923 are held by the Licence Holder.

The Licence Holder states the following (MRL 2021):

- Pursuant to Clause 15(b) of the 2017 Wodgina Exit Agreement (Agreement), Atlas granted the WLPL exclusive licence in relation to M45/1188; and
- Clause 3 of the Agreement is that WLPL is the beneficial owner and entitled to become the legal registered owner of the Wodgina Tenements for which M45/923 falls under.

The department has updated the premises boundary during this amendment.

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 pathways	Proposed controls
Category 5 – Beneficiation plants – Trains 1, 2 and 3 and associated infrastructure			
Leaks and spills of process liquor, slurries and chemical reagents	Operation of the beneficiation plant / wet processing	Pipeline failure or tank/ bund overflow	• Located within an impervious concrete compound with nibs walls around the entire perimeter of the facility. • Graded to direct any spills and drainage to concrete lined sumps that have sump pumps. • Sump pumps reinject the discharge to the process water stream. • Concreted bund kerbs maintained to direct stormwater towards the retention sump for recycling back to the process circuit. • A Programmable Logic Control system (PLC) installed that monitors the flow and pressure meters installed in the various pipelines.

Emission	Sources	Potential pathways	Proposed controls
Contaminated stormwater	Overland runoff	Discharges to land	• Directed to a retention sump. Retention sump has the following controls: • High density polyethylene (HDPE) lined. • 300 mm freeboard. • Sufficient capacity to store a 1:100-year ARI event. • Rock-armoured spillways which direct overflow to Wodgina pit for rainfall exceeding the 1:100-year event. • Water reporting to the retention sump is pumped to the process water pond for re-use in the beneficiation plant water circuit.
Dust from product handling Dust lift off from exposed stockpiles	Spodumene concentrate storage areas (inside and outside the storage shed) To note: the outside concentrate storage area is utilised when the concentrate shed is at capacity	Air/ windborne	*W6132/2018/1 Amendment Notice 5* states the following: • The dust extinction moisture content is expected to be 10-12% during deposition which should reduce dust generation. • To comply with Occupational exposure standard of 0.1 mg/m^3, the Licence Holder is required to maintain stockpile moisture (which in turn should ensure dust generation with potential for environmental impact is minimised). This is regulated by the Department of Mines, Industry Regulation and Safety (DMIRS). • The storage location has drainage control areas (primary and secondary) designed to minimise suspended solids discharged in stormwater and a designated sump with a pump. The Licence Holder has committed to: • Minimise deposition/loading during high winds. • Have and use dust suppression controls (water carts, sprinklers). • Groundwater monitoring bore DGMB1 to assess potential impacts to groundwater. • Surface water monitoring point (Indicative Surface Water Monitoring Site (ISWMS)) to assess potential downstream surface water impacts.

Emission	Sources	Potential pathways	Proposed controls
Spills of tantalum	Tantalum storage area	Bag breakages	To note: an asset protection cover/shed structure has been built, but this cover/shed is specifically to protect some instrumentation in the bagging area from the elements, not for the storage of the tantalum (MRL 2019c). The tantalum is stored in 1,000 kg canvas bulka bags within a purpose built, bunded concrete pad until they are shipped off-site. The storage area has a sump pump which directs incidental water flow back in to the tantalum concentrate hopper and back through the recovery circuit.
Process water	Process water pond and associated pump and piping system	Overflow from process water pond	• HDPE lined. • Maintain an operational freeboard of 300 mm. • Sized so that there is no overflow except in the event of a greater than 1% AEP 72 hour storm. • Water reporting to the process water pond is re-used in the processing water circuit.
Category 5 – TSF3E			
Spillage of tailings slurry, tailings supernatant and decant return water	Leaks and ruptures of pipelines	Discharges to land and infiltration to soils	• Tailings transported from the process plant to the TSF3E via two carbon steel and HDPE pipelines. • HDPE pipe installed alongside the tailings pipeline for the purposes of decant return back to the process water pond. • All pipelines are located within earthen bunds along their length from the beneficiation plant through to the TSF3E. • Four scour pits with a capacity of 255 m^3 have been constructed to store tailings material in the event of a pipeline failure. • The earthen bunds are sufficient in width to contain any spillages from the lines and direct spillage back into scour pits/TSF3E. • Two electromagnetic flow meters installed in each tails line. One at the tails pump in the process plant and one just before the discharge into TSF3E. • A Programmable Logic Control system

Emission	Sources	Potential pathways	Proposed controls
			(PLC) installed that monitors the flow and pressure meters installed in the various pipelines.
Tailings seepage	Deposition of tailings into TSF3E	Infiltration through underlying soils to groundwater Potential hydraulic interactions between groundwater and surface water systems	• Lining system comprising a BM liner over a geotextile installed on the upstream face of the embankment. • Eastern side of TSF3E (at the site of the waste dump) lined with an elastomeric modified BM geomembrane. • 102 m^3/hour @ 100 m Total Dynamic Head decant pump (skid mounted system) installed at the main embankment area on the decant ramp. • Tailings deposited at 60% solids. • Tailings discharged sub-aerially from several single point discharges located up the valley. • Tailings deposition in thin layers, not exceeding 300 mm thickness. • Supernatant pond maintained around the decant pump within the northern section of the facility near the main embankment of TSF3E. • Monitoring program – refer to section 2.3.4 TSF Operational Monitoring and Mitigation Report.
Overflow of tailings		Direct discharge and infiltration through soils to groundwater and adjacent surface water systems	• Provision of a minimum of 1 m total freeboard, plus an allowance for the 1% AEP 72-hour event of 388 mm has been allowed above the normal decant pond. • Water removed from TSF3E and pumped back to the process plant.
Dust	Tailings dust from TSF3E surface	Air / windborne	*W6132/2018/1 Report* dated 17 May 2018 states: • Low levels of naturally occurring radioactivity in tailings (approximately 3.36 Bq/g). This is mostly associated with rubidium-87 which is a low beta emitter. Up to 30 Bq/g of Rb-87 is exempt under the *Radiation Safety (General) Regulations 1983*. • Regulation of radiological impacts is the responsibility of DMIRS under the *Radiation Safety Act 1975*.

Emission	Sources	Potential pathways	Proposed controls
			Further assessment not required.
Category 54 – WWTF (Evaporation Pond 4)			
Seepage to groundwater and pond overflows	Storage of treated and untreated effluent within facultative or evaporation ponds	Direct discharges	• Ponds lined with 1.5 mm thick HDPE. • Groundwater depth and water quality monitored at existing monitoring bores in accordance with existing licence L4328. • Maintain freeboard of 300 mm.
Category 57			
Fire – black smoke	Tyre storage area pending disposal	Air/ windborne	• All tyre storage areas are traffic compacted hardstands and are delineated by safety bunds to separate these areas from surrounding land use. • Tyres will be stored in batches of not more than 100 tyres with a separation distance of at least 6 m between each batch of stored tyres to provide sufficient fire break between the tyre batches. • In the event that fire suppressant water is required, it will be restricted to the confines of the respective tyre storage area.

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**
Altura mine camp (not operated by the Licence Holder)	Approximately 500 m from the boundary of the Premises.
Environmental receptors	**Distance from prescribed activity**
Groundwater	The premises is located within the *Rights in Water and Irrigation Act 1914 (*RIWI Act) Proclaimed Pilbara Groundwater and Surface Water Areas. The principal direction of groundwater flow from TSF3E will be towards the Cassiterite pit, which represents a groundwater sink (Amendment Notice 3). No stock bores are in close proximity. The closest bore that is for camp use is under groundwater licence GWL184329 (Altura Mining Pty Ltd). This bore is located more than 3 km from the landfill on the Premises (used for final tyre disposal). Depth to groundwater is between 5-12 metres below ground level. The Premises is located above an unconfined fractured rock aquifer.
Major watercourses/ waterbodies	Several ephemeral watercourses are located within the Premises boundary. No permanent surface water flows exist within premises boundary although small pools may occur.
Threatened/ Priority Flora	There is Priority 3 flora located within the Premises.
Threatened/ Priority Fauna	Numerous Threatened and Priority Fauna are located within the premises boundary.

3.2 Risk ratings

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

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

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

The Revised Licence L4328/1989/10 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 5. Risk assessment of potential emissions and discharges from the Premises 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**				
Operation								
Category 5: Beneficiation Plant (Trains 1, 2 and 3)	Leaks and spills of process liquor, slurries and chemical reagents	Direct discharges to land from overflowing bunds, tanks, pipeline failures which could lead to soil contamination and reduction in groundwater quality depending on size of the spill	Underlying soils, surface water systems and groundwater	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 9	N/A
	Contaminated stormwater	Overland runoff		Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	Condition 1 Condition 9 **<u>Condition 10</u>**	Outstanding construction requirements from W6132/2018/1 added
	Dust from product handling Dust lift off from exposed stockpiles	Air/windborne pathway from the storage of dry spodumene concentrate inside and outside the storage shed	Threatened and Priority flora and fauna	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	N	Condition 9	The department has added the additional requirement for weekly concentrate clean-up
	Spills of	Discharges to	Localised	Refer to Section	C = Slight	Y	No conditions.	N/A

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**				
	tantalum from bag breakages	land	soils	3.1	L = Unlikely **Low Risk**		The general provisions of the EP Act and *Environmental Protection (Unauthorised Discharges) Regulations 2004* apply	
Category 5: Process water pond	Overtopping of pond Process liquors may contain trace radionuclides and elevated levels of contaminants such as: aluminum, cadmium, nickel, zinc and fluoride, oleic acid and xanthate	Direct discharges to land and impact on vegetation/soils adjacent to the pond	Underlying soils, surface water systems and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 9	N/A
Category 5: Tailing deposition into the TSF3E	Spillage of tailings slurry, tailings supernatant and decant return water from leaks and ruptures of pipelines	Soil contamination through release of liquors with brackish salinity, low levels of radioactivity, elevated levels of	Localised soils and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	N	**Condition 8** Condition 12 Condition 13	Inclusion of condition 8 to ensure tailings delivery and return water pipelines are maintained in good working order

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**				
		contaminants including fluoride, aluminium and thallium						
	Tailings seepage	Infiltration through underlying soils to groundwater causing contamination of groundwater capable of beneficial use Potential hydraulic interactions between groundwater and surface water systems causing impacts to surface water quality and aquatic fauna	Underlying soils and groundwater Ephemeral surface water systems and pools	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	N	**Condition 24** **Condition 26** Condition 27	Additional requirements including: • undertaking a water balance for TSF3E; • monitoring decant water recovered from TSF3E; • monitoring groundwater recovered from the recovery bores; and • piezometer readings. Inclusion of additional ambient groundwater monitoring bores – refer to section 2.3.4 TSF Operational Monitoring and

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**				
								Mitigation Report.
	Overflow of tailings	Direct discharge and infiltration through soils to groundwater and adjacent surface water systems Soil contamination through release of liquors with brackish salinity, low levels of radioactivity, elevated levels of contaminants including fluoride, lithium and thallium Impact to vegetation health if inundated by tailings/ supernatant	Adjacent soils and vegetation Surface water and groundwater systems	Refer to Section 3.1	C = Moderate L = Rare **Medium Risk**	N	**<u>Condition 8</u>** Condition 9 Condition 13	Inclusion of condition 8 to ensure TSF3E is maintained to specified requirements.
Category 54: WWTF Expansion	Seepage to groundwater and pond	Direct discharge and infiltration through soils to	Underlying soils and groundwater	Refer to Section 3.1	C = Minor L = Unlikely	Y	Condition 9 Condition 11	N/A

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**				
	overflows	groundwater			**Medium Risk**		Condition 23	
Category 57: Tyre storage pending disposal	Fire – black smoke	Air/windborne pathway causing impacts to health and amenity Smoke may include particulates, SO2, CO, metals, PAH, VOC, polychlorinated biphenyls, phenols, dioxins, chlorine and furans	Altura camp will be located 7 km from closest tyre storage area Threatened flora/fauna	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 3	N/A

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

Table 6: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 24 May 2022	Comments were received by the Licence Holder on 20 June 2022 – Refer to Appendix 4	Refer to Appendix 4

5. Conclusion

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

5.1 Summary of amendments

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

Table 7: Consolidation of licence conditions in this amendment

Previous condition	Condition summary	Revised licence condition	Conversion notes
N/A	Premises details	N/A	Inclusion of additional tenements for the expansion of the premises boundary as per Licence Holder's request (refer to section 2.3.5).
N/A	Prescribed Premises Category table	N/A	Inclusion of category 57 with a design capacity of 500 tyres as per Licence Holder's request (refer to section 2.3.3). Category 89 capacity has been updated to 3,650 tonnes per annual period (increase of 300 tonnes per annum). This increase in capacity was assessed under L4328/1989/10 Amendment Notice 3 but the category 89 capacity wasn't updated.
N/A	Contents and Introduction	N/A	Removed, in line with current licence format.
1.1.1 to 1.1.4	Interpretation	Interpretation	Previous conditions 1.1.1 to 1.1.4 have been removed and replaced with a new Interpretation section in line with current licence format.
N/A	Definitions	Definitions – Table 15	Definitions have been moved to Table 15 in line with current licence format.

Previous condition	Condition summary	Revised licence condition	Conversion notes
N/A	Instrument Log	Licence history	The previous instrument log has been removed and replaced with Licence history table in line with current licence format.
1.2.1	Stormwater management	1	Condition retained – administrative changes only.
N/A	Premises category capacity limits	2	Inclusion of condition 2 to define premises category limits for the licence.
1.3.1	Premises operation	3 – Management of Waste	This condition has been retained and amended to include: • administrative updates; and • to allow for used tyre storage with specifications.
1.3.2		4	Condition retained – no changes made.
1.3.3		5	Condition retained – administrative changes only.
1.3.4		6	Condition retained – administrative changes only.
1.3.5		7	Condition retained – no changes made.
N/A		8 – Infrastructure and equipment	Inclusion of condition 8 to ensure all infrastructure and equipment associated with a category and/or activity on the licence are maintained and operated in good working order.
1.3.6		9 – Infrastructure and equipment requirements	This condition has been removed, but amalgamated with previous condition 1.3.15 (now condition 9).
1.3.7	WWTF management	11	Condition retained – no changes made.
1.3.8	Pipelines requirements	12	Condition retained – administrative changes only to remove reference to environmentally hazardous materials and stipulate tailings and decant water.
1.3.9	Inspections	13	Condition retained – administrative changes only to stipulate TSF3E.
1.3.10 and 1.3.11	Type disposal areas	3	These conditions have been removed. Condition 3 has been updated to state “with cells constructed on each bench as the Eastern Waste Landform is

Previous condition	Condition summary	Revised licence condition	Conversion notes
			developed" removing the need for these previous conditions.
1.3.12	Construction requirements	9 - Infrastructure and equipment requirements	Previous condition 1.3.12 has been adapted to outline operational requirements for the infrastructure and equipment on the Premises rather than construction requirements. Since construction works have been completed.
1.3.13 and 1.3.14		N/A	Removed as construction requirements are complete.
1.3.15		9	Previous condition 1.3.15 has been adapted to outline operational requirements for the infrastructure and equipment on the Premises rather than construction requirements. Since construction works have been completed. Operational requirements for the TSF3E, retention sump, Beneficiation Plant, process water storage pond; and spodumene concentrate storage areas have been included.
N/A		10	Inclusion of this condition for the outstanding stormwater management construction requirements under W6132/2018/1.
2.1.1	Emissions	14	Condition retained – no changes made.
2.2.1	Emissions to land	15	Condition 15 has been included to stipulate the authorised discharge points for the Premises. Previous condition 2.2.1 and 2.3.1 have been amalgamated into this condition. During this amendment, this condition now authorises the discharge of tailings to TSF3E via a single point; and includes exhaust gases from the thirty-two 2 MW generators at the power station.
2.3.1	Point source emissions to air		
2.2.2	Emission limits to land	16	Previous condition 2.2.2 has been removed and amalgamated into condition 16.
2.2.3	Dust suppression	17	Condition retained – administrative changes only.
N/A		18	Inclusion of condition 18 preventing the use of TSF3E decant water and process water for dust suppression – refer also to

Previous condition	Condition summary	Revised licence condition	Conversion notes
			Appendix 1 W6132/2018/1 Condition No. 20.
3.1.1	General monitoring	19	Condition retained – no changes made.
3.1.2		20	Condition retained – no changes made.
3.1.3		21	Condition retained – no changes made.
3.1.4		22	Condition retained – no changes made.
3.2.1	Monitoring of emissions to land	23 – Discharge point monitoring	Condition retained – administrative changes only in line with current licence format.
N/A	Water balance	24	Inclusion of condition 24 requiring the Licence Holder to undertake monthly monitoring of the water balance for TSF3E.
3.3.1	Monitoring of inputs and outputs	25	Previous condition 3.3.1 has been retained. Refer also to revised licence condition 26.
3.3.1	Monitoring of inputs and outputs	26 – Process monitoring	Previous condition 3.3.1 for the wastewater discharged from the mining tank and haulage tank have been put under condition 26. During this amendment the following has been included: • monitoring of wet ore concentrate produced for the Beneficiation Plant; • volume of decant water recovered from TSF3E; • volume of groundwater recovered from the recovery bores; and • piezometer readings.
3.4.1	Ambient environmental quality monitoring	27	Previous condition 3.4.1 has been retained. During this amendment this condition has been updated to include the following: • administrative changes; • inclusion of additional TSF3E monitoring bores; • recovery bores; • decant water; and • ISWMS.

Previous condition	Condition summary	Revised licence condition	Conversion notes
4.1.1	N/A	N/A	Removed in line with current licence format.
4.1.2	Annual Audit Compliance Report	31	Previous condition 4.1.2 has been removed and replaced with condition 31 in line with current licence format.
4.1.3	Complaints management system	28	Previous condition 4.1.3 has been removed and replaced with condition 28 in line with current licence format.
N/A	Construction report	29 and 30	Conditions 29 and 30 have been included, requiring the Licence Holder to submit a compliance report following the construction of the infrastructure under condition 10.
4.2.1	Annual Environmental Report	32	Previous condition 4.2.1 has been updated in line with current licence format. Reporting requirements have been made clearer and where applicable previous condition 4.2.2 requirements have now been included under condition 32. Reporting requirements for the annual water balance and process monitoring for the Beneficiation Plant and TSF3E have also been stipulated.
4.2.2		32 and 33	As per above.
N/A	DTA	34	Inclusion of this condition requiring the Licence Holder to undertake and submit a report on the DTA – refer also to section 2.3.4 DTA.
N/A	Start-up report	35	Inclusion of this condition requiring the Licence Holder to submit a report three months from the date of this amendment – refer also to Appendix 1 W6132/2018/1 Condition No. 18.
N/A	Six consecutive month of operation report	35	Inclusion of this condition requiring the Licence Holder to submit a report after six consecutive months of operating Train 1 and Train 2 – refer also to Appendix 1 W6132/2018/1 Condition No. 18.
N/A	Records	36	Inclusion of condition in line with current licence format.
N/A		37	Inclusion of condition in line with current licence format.

Previous condition	Condition summary	Revised licence condition	Conversion notes
4.3.1	Notification requirements	38	Updated in line with licence conditions.
Schedule 1	Maps and Figures	Schedule 1: Maps	Updated in line with licence conditions.
Schedule 2	Prescribed Premises category	Front page	The Prescribed Premises category table has been removed from Schedule 1 and is now on the front page of the licence.
N/A	N/A	Condition 8 and Schedule 2: Infrastructure and equipment	Associated with new condition 8 and included to ensure all infrastructure and equipment associated with a category and/or activity on the licence is maintained and operated in good working order.
Schedule 3	Reporting and notification	Schedule 3: Reporting & notifications	Condition retained – updated N1 template.

References

1. ANZECC Guidelines 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Canberra.
2. CMW Geosciences Pty Ltd (CMW) 2018, *Tailings Storge Facility 3 Expansion Wodgina Mine Design Report* (Ref. PER2017-0428AE Rev5), dated 26 February 2018 (Attachment 1 of A1769300).
3. CMW 2019a, *Tailings Storage Facility 3 Expansion Project Wodgina Mine, WA Construction Report* (Ref. PER2017-0428AS Rev 0), dated 20 March 2019 (A1774407).
4. CMW 2019b, *Tailings Storage Facility 3 Expansion Wodgina Mine Operations Manual* (Ref. PER2017-0428AM Ops Man Rev2), dated 01 April 2019 (A1778291).
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.
8. MARBL Lithium Operations Pty Ltd (MARBL) 2021, *MARBL Lithium Operations Annual Environmental Report 2021 L4328/1989/10*, dated 03 November 2021 (DWERDT5231115).
9. MBS Environmental (MBS) 2019, *Commissioning Plan for Infrastructure as per W6132/2018/1 Wodgina Operations M45/50, M45/381, M45/382, M45/383, M45/886, M45/887, M45/923, M45/925 and M45/1252*, prepared for Wodgina Lithium Pty Ltd, dated January 2019 (A1755638).

10. Mineral Resources Limited (MRL) 2018, *W6132/2018-1 – Specified Action 7 – Technical Reports*, received 04 December 2018 (A1745289).
11. MRL 2019a, *Beneficiation Plant (Train 1)/Pipeline Compliance Report – Wodgina Lithium Project – Works Approval (W6132/2018/1)*, dated 01 March 2019 (A1769299).
12. MRL 2019b, *Beneficiation Plant (Train 1)/Pipeline Compliance Report – Wodgina Lithium Project – Works Approval (W6132/2018/1) – Revision 2*, dated 05 April 2019 (A1779504).
13. MRL 2019c, *Beneficiation Plant (Train 1) – Tantalum Recovery Circuit – Wodgina Lithium Project – Works Approval (W6132/2018/1) – Revision 3*, dated 09 May 2019 (A1787332).
14. MRL 2019d, Email correspondence titled: *FW: Wodgina – Tantalum circuit commissioning*, received 27 May 2019 (DWERDT162343).
15. MRL 2019e, *Tailings Storage Facility 3 Extension Compliance Report – Wodgina Lithium Project – Works Approval (W6132/2018/1)*, dated 01 March 2019 (A1769300).
16. MRL 2019f, *Wodgina Lithium Project L4328/1989/10 Supporting Documentation – Revision 0* (Report Reference: ENV-TS-RP-0192), dated 13 December 2019 (A1860518).
17. MRL 2021, Email correspondence titled: *Wodgina L4328 Amendment Application*, including attachments: Wodgina L4328 Amendment – Application form and Attachment 8A – L4328 Supporting Document, received 16 November 2021 (DWERDT527387).
18. MRL 2022a, *RE: Re-commencement of Operations at Wodgina Lithium Project*, received 27 April 2022 (A2098253).
19. MRL 2022b, *RE: Notification of proposed amendment to Licence L4328/1989/10*, received 20 June 2022 (DWERDT620111).
20. L4328/1989/10 Amendment Notice 3, dated 25 January 2019 available at IR-T08 Amendment Notice (Major) template (der.wa.gov.au).
21. W6132/2018/1 Amendment Notice 4, dated 12 July 2019 available at IR-T08 Amendment Notice (Major) template (der.wa.gov.au).
22. W6132/2018/1 Amendment Notice 5, dated 24 September 2019 available at IR-T08 Amendment Notice (Major) template (der.wa.gov.au).
23. W6132/2018/1 Report, dated 17 May 2018 available at W6132-2018-1 DR.pdf (der.wa.gov.au).

Appendix 1: Review of W6132/2018/1 conditions

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
1-3	Construction requirements related to infrastructure and equipment authorised in Table 3 of the works approval and requirements relating to submission of construction compliance documents.	W6132/2018/1 required compliance documentation to be submitted to the department within 60 days of the construction of infrastructure. Compliance documentation in relation to this licence amendment has been received for the following: • TSF3E; • Decant infrastructure; • Tailings deposition infrastructure; • Pipeline corridor; • Tailings delivery and return water pipelines; • Beneficiation Plant (trains 1, 2 and 3); • Tantalum and spodumene storage areas; • Process water pond; • Retention sump; and • WWTF – evaporation pond 4. Refer to section 2.3.1.	Infrastructure and equipment maintenance and operational requirements have been added to the licence during this amendment. The outstanding stormwater infrastructure construction requirements pertaining to the Beneficiation Plant train 3 (refer to section 2.3.1) and a requirement to submit compliance documentation has been added to the licence during this amendment. Conditions 1 to 3 of W6132/2018/1 are now closed.
4	Requirement for submission of groundwater monitoring bore logs.	No additional bores were constructed. *MRL 2019e* states "*A meeting held with DWER and MRL in February 2019 concluded that sufficient monitoring bores currently existed to sufficiently monitor potential seepage from the TSF3 expansion*."	No action required – condition 4 of W6132/2018/1 is closed.
5	Requirement to report any departures from infrastructure construction requirements (including	N/A.	No action required – condition 5 of W6132/2018/1 is closed.

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
	description of, and explanation for) authorised in Table 3.		
6	The condition authorised commissioning of TSF3E until 15 February 2020 with 'total tailings' and restricted deposition of wet/fine tailings alone.	Construction and commissioning of the TSF3E and Beneficiation Plant trains 1, 2 and 3 was authorised under W6132/2018/1. Commissioning of trains 1 and 2 and TSF3E infrastructure was undertaken under W6132/2018/1 prior to the Premises entering care and maintenance. Train 3 has yet to be commissioned.	Maintenance and operational requirements for the Beneficiation Plant trains 1 to 3 have been added to the licence during this amendment. The Licence Holder will be able to operate all three trains under the licence. The department is of the opinion that the stormwater construction requirements which are ongoing at train 3 should be completed prior to the operation of train 3. Condition 6 of W6132/2018/1 is now closed.
7	Information requirements relating to groundwater and surface water environment.	W6132/2018/1 required a report on interactions between groundwater and surface water systems at the Premises; baseline surface water conditions; detail on surface water pathways; and a surface water monitoring program. Refer to section 2.3.4 Aquatic Habitat Survey.	The Licence Holder provided an Aquatic Habitat Survey report to the department on 20 June 2022, which will be reviewed outside this licence amendment. Condition 7 of W6132/2018/1 remains open until the department deems this condition compliant.
8	Requirements relating to submission of a DTA report and to establish site specific Trigger Values for Lithium, Thallium and Fluoride.	Refer to section 2.3.4 DTA.	During this amendment, W6132/2018/1 condition 8 will be added to the licence requiring the Licence Holder to submit this information to the department by 30 April 2023. Condition 8 of W6132/2018/1 is now closed.
9	Requirements relating to reduction	On 18 November 2019 the department advised the Works	Monitoring requirements which have been

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
	of soluble contaminant concentration in tailings supernatant.	Approval Holder that they had yet to comply with condition 9 of W6132/2018/1. This condition was specified on W6132/2018/1 due to the concerns about seepage from the TSF3E and potential impacts on groundwater and poor characterisation of groundwater-surface water. The Works Approval Holder has provided groundwater results according to condition 22 of W6132/2018/1. The department has reviewed these results (refer to Appendix 2) against contaminants levels specified in condition 9. Based on the monitoring results (Appendix 2) the main contaminants of concern are Fluoride, Zinc and Lithium. The following should be noted: • Fluoride DTA is required. Refer to department's determination for Works Approval Condition No. 8 above. Once the DTA report is submitted, a limit for Fluoride will be added to the licence. • Zinc toxicity is hardness dependent. Groundwater hardness at the two monitoring points is generally above 2,000 mg/L. According to *ANZECC Guidelines 2000*, zinc toxicity decreases with increase hardness and a corrector factor can be calculated. • Lithium site specific value of 1.5 mg/L was determined in the DTA. It is noted that all the values at TSF3 Ext MB are above this value and the high lithium concentration extends to the north of the old TSF. Continued monitoring and seepage recovery and groundwater/surface water interaction will provide a better understanding of how lithium is being mobilised from the old TSF.	included on the licence during this amendment and the inclusion of the specified action condition (i.e. submission of DTA report) will provide a better understanding and appropriate values in which to set limits for groundwater protection. Condition 9 of W6132/2018/1 is now closed.

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
10	Requirement for submission of water balance prior to construction of the Evaporation Pond 4 for the WWTF.	On 10 August 2018, the Works Approval Holder provided formal notification and further information required to implement the WWTF upgrade at the Premises (DWER reference DWERDT85253). On 30 August 2018, the department advised the Works Approval Holder that a water balance was not required "*owing to practices employed to avoid infiltration and that condition 10 is met. The Department is also satisfied that the information provided completes the requirements for submission of an improvement plan as required by condition 11*." (DWER reference DWERDT89401). The department noted that the Works Approval Holder had made the following commitments: • Treatment ponds to be lined using 1.5mm thick HDPE liner with permeability of no greater than 10^{-9} m/s; • Maintenance of 300 mm freeboard in ponds; • Ponds designed to contain storm events of 1:100 year 72 hour duration; and • Maintenance of existing groundwater monitoring bores.	No action required - conditions 10 and 11 are closed. The licence includes maintenance and operational requirements for the WWTF.
11	Requirement for submission of an improvement plan for the WWTF.		
12, 13	Requirements relating to maintaining Books / Records and complying with a Department Request within the specified timeframe.	N/A.	Standard licence conditions relating to the retention of records will be included on the licence under this amendment. Conditions 12 and 13 of W6132/2018/1 are closed.
14	Requirements relating to recording the Tails Operators shift log or equivalent to document the spigot deposition location for each working	These conditions relate to monitoring of environmental performance of the Beneficiation Plant and TSF3E during commissioning.	The existing licence has a condition relating to the inspection of infrastructure. No further actions required.

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
	shift.	The Works Approval Holder has not provided a commissioning report (as required by condition 18 of W6132/2018/1) for the TSF3E and Beneficiation Plant Train1 and Train 2. Review of groundwater monitoring data provided under W6132/2018/1 (refer Appendix 3) shows that standing water levels recorded in piezometers near the base of TSF3 are elevated and need ongoing management and monitoring.	Condition 14 of W6132/2018/1 is closed.
15	Requirements relating to recording monthly piezometer reading.		These conditions have been included on the licence during this amendment. Refer also to W6132/2018/1 Condition No. 18 below. Conditions 15 to 17 of W6132/2018/1 are now closed.
16	Requirements relating to recording monthly reading of TSF3E monitoring bore.		
17	Requirements relating to recording monthly water balance for TSF3E.		
18	Requirement relating to submission of Commissioning report by 15 December 2019. Authorisation to operate TSF3E until 15 February 2020.	Commissioning reports for TSF3E and Beneficiation Plant Train 1 and Train 2 were not provided to the department by 15 December 2019 nor have any been received to date. The Licence Holder has stated "*Condition 18 requires the provision of data recorded in accordance with conditions 14-17 and condition 24 by the 15 December 2019 – this condition cannot be complied with due to the Project being placed in C&M on 01 November 2019*" (MRL 2019f).	A condition will be placed on the licence during this amendment, which will require the Licence Holder to submit a report three months from the date this amendment is granted and again following six consecutive months of operation of Train 1 and Train 2. The three month report will need to include the following: • water balance for TSF3E including the reporting requirements stipulated by condition 32; • monitoring data for TSF3E and the operational train/s; and • decant water monitoring results. The consecutive six month report will need to include the following: • water balance for TSF3E (condition 24) including the reporting requirements stipulated by condition 32; • process monitoring data for

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
			Beneficiation Plant (Train 1 and Train 2); and TSF3E (condition 26); and • ambient groundwater quality monitoring results for the TSF3E including decant water (condition 27). Following this, reporting requirements will require this information to be submitted on an annual basis. Condition 18 of W6132/2018/1 is now closed.
19	Within 60 days of commencing commissioning, 26 individual tails samples for geochemical analysis must be collected.	The Works Approval Holder provided the Wodgina Lithium Project Site Production Tailings Geochemical Assessment on 13 December 2019 (MRL 2019f). It is stated that geochemical characterisation of 93 production tailings samples was undertaken, comprising 31 samples each of the following tailings streams: • Total combined tailings (100% production stream); • Dry/coarse tailings (64% production stream); and • Wet/fine tailings (36% production stream). Additional leachate test work was conducted on composite samples including two Leaching Environmental Assessment Framework (LEAF) tests (pH dependence - LEAF 1313) and varying solid to liquid tests. Four samples of supernatant tailings fluids were characterised.	No action required – condition 19 of W6132/2018/1 is closed.
20	Water from Wodgina Pit and TSF3E decant water must not be used for dust suppression until storm water works for Beneficiation Plant Train 1 are complete	Given potential risk of degradation of surface water quality and outstanding actions relating to the Aquatic Habitat Survey and DTA, it has been determined that the use of TSF3E decant water for dust suppression is not supported at this time.	The use of TSF3E decant water for dust suppression is not supported by the department at this time. During this amendment, a condition has been placed on the licence stating that

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
		Once the Aquatic Habitat Survey and DTA have both been reviewed and deemed acceptable, the Licence Holder may then consider submitting an application to have this condition revised.	TSF3E decant water or process water is not to be used for dust suppression. Condition 20 of W6132/2018/1 is now closed.
21	Monthly report to the CEO on data required by conditions 14, 15,16,17 and 22	The Works Approval Holder provided monthly reports which generally included the following: • Standing water level (SWL) for PZ19TSF304 and TSF3 Ext MB; • Volume of water recovered from two recovery bores (TSF2 and TSF3); and • Water quality sampling for TSF3 Ext MB, DGMB1 and PZ19TSF304.	Refer to W6132/2018/1 Condition No. 14 to 17 above; and 22 below. Condition 21 of W6132/2018/1 is now closed.
22	Monitoring of ambient groundwater quality at the following points: • TSF3 Ext MB, PZ19TSF304, Path 2MB vicinity and DGMB1; • Decant water; • Recovery Bores (RB1,RB2, RB3 and RB4) for the volume of water recovered; and • Indicative Surface Water Monitoring Site (ISWMS).	The department has reviewed the data provided to date for condition 21 and notes the following: • No water quality results have been provided for Path 2MB vicinity. • Only three samples have been provided for decant water. • From August 2021 to December 2021 the volume of water recovered from recovery bores has been between (average) 320-379 kL/day (RB2); and 0-117/kL/day (RB3). • No results have been provided for ISWMS. The department notes that monitoring at ISWMS is only required once flow reaches this site. The department also notes that the Beneficiation Plant has not yet operated at full operation (i.e. all three trains operating simultaneously). Previous data indicates that the risk of groundwater level	During this amendment the licence has been amended to include the following: • Monitoring and reporting on volumes of decant water recovered from TSF3E; • Monitoring and reporting on volumes of groundwater recovered from the recovery bores; • Piezometer readings; • Water balance for TSF3E; and • Ambient groundwater quality monitoring for the following bores: ○ TSF3E bores (including the recovery bores, TSF3 Ext MB, TSF2, TSF3, TSF4, TSF5,

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
		rise and surface expression/ seepage still exists once all Beneficiation Plant trains operate simultaneously and increase quantities of tailings are deposited. It is critical that the performance of TSF3E is managed when the Beneficiation Plant recommences operation.	PZ19TSF302, PZ19TSF303, PZ19TSF304 and TDNE6a); o retention pond down gradient bore (DG MB1); o decant water; and o ISWMS. Refer also to W6132/2018/1 Condition No. 18 above. Condition 22 of W6132/2018/1 is now closed.
23	Improvement Plan to increase reuse of decant water in the process.	The Works Approval Holder provided the *Wodgina Raw Water Usage Improvement Plan* to the department on 12 August 2019 (DWER reference A1814865). Within the Plan it is stated that the key initiatives delivered so far have been: • A change from raw to process water for the crushing circuit; • Improved process stability – allowed for a strategy of tighter control on raw water usage to the process water dam (ongoing); • Improved tails pumping and reduced amount of flushing water; and • Improved filter belt performance. *MRL 2021* states the following: • "*Maximising the recovery of decant water from TSF3E is a continuous assessment process that is*	No further action required - condition 23 of W6132/2018/1 is closed.

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
		affected by a number of factors including: - *Ore weathering* - *Thickener operation* - *Reagent regimes within the plant during the life of the operation.* • *Maximises decant recovery is undertaken as a matter of course as it:* - *Reduces the volume of raw source water drawn from the borefield; and* - *Reduces processing costs through a reduction in reagent use."* The department notes the above.	
24	Monthly record TSF3E performance data (flow meter values for tailings discharge, flow meter values for decant water recovery and calculated seepage)	Refer to W6132/2018/1 Condition No. 18, 21 and 22 above.	Refer to W6132/2018/1 Condition No. 18 above. Condition 24 of W6132/2018/1 is now closed.
25	Notification requirements for any monthly average seepage and/or decant water recovery in exceedance of designed technical specifications (CMWTSF3E Report)	Refer to section 2.3.4 TSF Operational Monitoring and Mitigation Report. The department notes that the Licence Holder has requested that this condition be amended to refer to the Report and Trigger Action Response Plan for management of TSF3/3E seepage. Changes to the existing works approval condition will not be made under this licence amendment and the department has not conditioned the trigger response actions.	This condition has not been included on the licence during this amendment. During this amendment, the department has included the following bores to the ambient groundwater quality monitoring schedule: TSF2, TSF3, TSF4, TSF5, PZ19TSF302, PZ19TSF303, PZ19TSF304 and TDNE6a. The Licence Holder will also be required to submit a report three months from the date of this licence amendment and again following six consecutive months of
26	Control measures for any notifications provided pursuant to Condition 25		

W6132/2018/1 Condition No.	Condition Requirement	Department Determination	Action
			operation of Train 1 and Train 2. Refer to W6132/2018/1 Condition No.18 above. Based on these results, the department may amend the licence to include triggers and/or limits for water levels and ambient groundwater quality. Condition 25 and 26 of W6132/2018/1 are now closed.
27,28	Spodumene storage requirement for outside the storage shed	Authorisation for storage of spodumene outside the storage shed was granted via a works approval amendment to support commissioning.	Operational requirements for the concentrate storage area inside and outside the storage shed has been included on the licence during this amendment. Conditions 27 and 28 of W6132/2018/1 are now closed.
29	Requirement relating to submission of updated recorded data for conditions 14 to 17 and 24 by 31 January 2020	This data was not provided by 31 January 2020.	This condition will not be included on the licence under this amendment. Monitoring and reporting requirements which have been updated during this amendment are considered sufficient. Refer also to W6132/2018/1 Condition No. 14 to 18 above. Condition 29 of W6132/2018/1 is now closed.

Appendix 2: Groundwater monitoring results against condition 9 contaminant levels

Parameter	Aluminium		Fluoride		Chromium		Copper		Nickel		Zinc		Thallium		Lithium	
Monitoring Bore	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**	**TSF3 Ext MB**	**PZ19TSF304**
Contaminant level	**0.055 (mg/L)**		**2 (mg/L)**		**0.001 (mg/L)**		**0.0014 (mg/L)**		**0.011 (mg/L)**		**0.008 (mg/L)**		**0.002 (mg/L)**		**0.7 (mg/L)**	
24/02/2021	0.05	<0.01	0.9	2.5	<0.001	<0.001	<0.001	<0.001	0.004	0.006	0.006	0.023	<0.001	<0.001	16	0.28
23/03/2021	0.02	<0.01	1.1	4.4	<0.001	<0.001	0.003	<0.001	0.003	0.002	0.013	0.014	<0.001	<0.001	14	0.24
28/07/2021	<0.01	<0.01	1.5	4.8	<0.001	0.001	<0.001	<0.001	0.004	0.002	0.008	0.066	<0.001	<0.001	7.2	0.2
25/08/2021	<0.01	<0.01	1.2	3.3	<0.001	0.001	<0.001	0.001	0.006	0.004	0.013	0.025	<0.001	<0.001	13	0.43
30/09/2021	<0.01	<0.01	1.2	1.7	<0.001	0.001	<0.001	0.002	0.008	0.033	0.007	0.03	<0.001	<0.001	8.1	0.73
27/10/2021	0.06	<0.01	1.3	2.2	<0.001	<0.001	<0.001	<0.001	0.006	0.002	0.003	0.017	<0.001	<0.001	14	0.35
25/11/2021	<0.01	<0.01	1.4	2.5	<0.001	<0.001	<0.001	<0.001	0.006	0.002	0.002	0.011	<0.001	<0.001	13	0.27
12/12/2021	<0.01	<0.01	1.4	2.7	<0.001	<0.001	<0.001	<0.001	0.008	0.003	0.027	0.017	<0.001	<0.001	14	0.24
22/02/2022	<0.01	<0.01	1.3	3.3	<0.001	0.001	<0.001	<0.001	0.008	0.001	0.004	0.018	<0.001	<0.001	14	0.28
	Indicates an exceedance of contaminant level															
	Indicates result is equal to contaminant level															

Appendix 3: TSF3E surface water levels

W6132/2018/1 Amendment Notice 4 and *W6132/2018/1 Amendment Notice 5* discuss TSF3E surface water levels. It is stated that water level rise since tailings deposition started (11 April 2019) has been:

- TSF3E – 13 m
- PZ19TSF304 – 7.79 m; and
- TSF3MB – 6.39 m.

Figure 3 shows the rise from April to August 2019.

The rise in water level at the monitoring bores during this period was also attributed to the volume of tailings deposited at TSF3E, rain from Cyclone Veronica (18-21 March 2019) and also reduced water recovery from TSF3E.

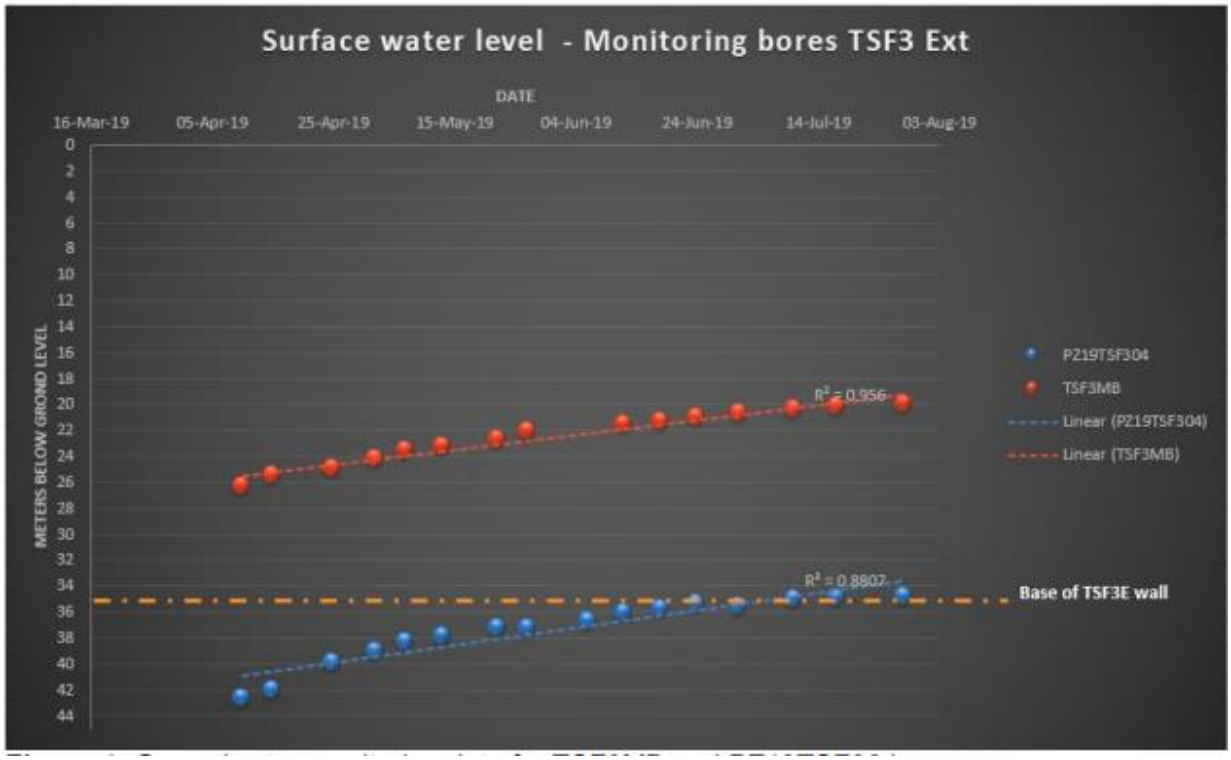

Figure 3: Groundwater monitoring data for TSF3MB and PZ19TSF304 for 2019

Table 8 and Figure 4 show the groundwater monitoring data for TSF3 MB Ext and PZ19TSF304 from April 2019 to November 2021. From this, it can be seen that water levels are slowly returning to April 2019 levels following the Premises going into care and maintenance.

Table 8: Surface water levels

Date	PZ19TSF304 (mbgl)	TSF3 MB Ext (mbgl)
10 April 2019	42.7	26.3
12 June 2019	36.1	21.6
13 August 2019	34.4	19.5
22 October 2019	33.6	18.5
November 2019	**Premises in care and maintenance**	
12 December 2019	33.42	18.4
05 February 2020	34.79	19.13
31 March 2020	35.48	19.62
02 June 2020	34.88	19.72
11 August 2020	35.74	20.21
15 December 2020	34.24	21.45
24 February 2021	36.85	21.41
15 March 2021	36.1	21.25
27 July 2021	36.74	21.13
30 September 2021	37.38	21.76
25 November 2021	37.76	22.22

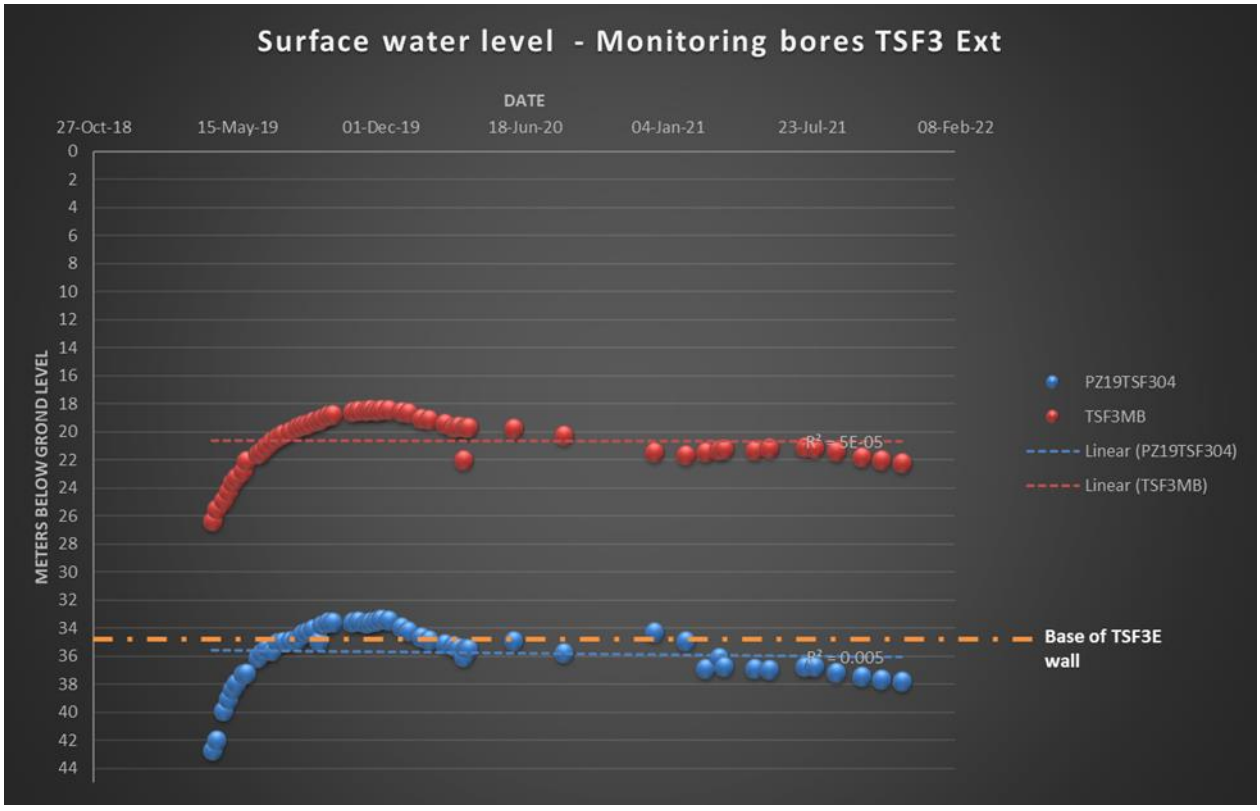

Figure 4: Groundwater monitoring data for TSF3MB and PZ19TSF304 for April 2019-November 2021

Appendix 4: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition / Section	Summary of Licence Holder's comment	Department's response
Licence: Premises	The Licence Holder has stated that two tenements have been included within the premises boundary historically however they are not listed here: M45/365 and M45/888. *L4328/1989/10 Amendment Notice 3* stated "*The disposal of tyres within the EWL footprint is authorised within tenements M45/50, M45/383, M45/365, M45/888, M45/923, M45/924 and M45/1252 (within the Premises boundary)*." However, the two tenements were never listed on the Licence Premises Detail. Both tenements have also been included on Figures in all Licence documents since Amendment Notice 3. Tenement M45/950 also needs to be added to the Premises list, and has been added to the Prescribed Premises boundary (in Figures). Monitoring Bore WWTP5 sits on this tenement and has been approved on the Licence since before 2013 when the Global Advanced Metals were the Licensee. Tenement M45/950 is held by Albemarle Wodgina Pty Ltd and Wodgina Lithium Pty Ltd. There are no emissions or activities on this tenement other than Monitoring Bore WWTF5.	The department has included M45/365, M45/888 and M45/950 to the Premises details. These three tenements are held by the Licence Holder and are within the proposed expansion of the premises boundary.
Licence: Prescribed premises category description and assessed production / design capacity for Category 89	The Licence Holder has stated that the correct Category Capacity should be 3,650 tonnes. The increase in Amendment Notice 3 was not accounted for in the annual Capacity. History listed below. • Amendment Notice 5 approved the landfill extension however the Category Capacity remained the same (and the disparative volumes are listed). • Amendment Notice 3 approved an increase in the volume of	The department has updated the category 89 assessed production / design capacity to 3,650 tonnes per annual period. As this is an administrative update and the increase in capacity was previously assessed under L4328/1989/10 Amendment Notice 3, no additional assessment has been undertaken.

Condition / Section	Summary of Licence Holder's comment	Department's response
	tyre disposal into the EWL from 200 tonnes to 500 tonnes, however the Category Capacity was not updated. • Amendment Notice 1 increased the annual Capacity of Category from 1,850 tonnes to 3,350 tonnes.	
Licence: Condition 3 (Table 3) for the Eastern Waste Landform	The Licence Holder has requested that the disposal of Inert Waste Type 2 (tyres only) and Inert Waste Type 1 only in the EWL is approved within the waste dump footprint (as approved under the Mining Act). Therefore, as the EWL is expanded (and approved) the disposal of such wastes can also occur in the newly approved footprint, however still be managed as per Licence conditions. The current approved EWL footprint, as of the date of this submission, is provided in the revised Figure suite. The current approved EWL is positioned on the following tenements - M 45/50 - M 45/383 - M 45/887 - M 45/888 - M 45/923 - M 45/924 - M 45/1252	The department does not authorise this change. The request to expand the EWL footprint was not originally applied for with this licence amendment application. If this Licence Holder wish to expand the EWL footprint this will need to be assessed under a different licence amendment application.
Licence: Condition 9 (Table 4) for the Secondary fixed plant	The Licence Holder has requested to update this infrastructure name to "fixed plant".	The department has updated the licence to reference 'fixed plant' rather than 'secondary fixed plant'.
Licence: Condition 9 (Table 4) for the 3 mobile crushing and screening plants	The Licence Holder proposes to change "Atlas pit" to "Atlas hardstand" as the approved area is not within the defined pit footprint.	The department has made the requested change.
Licence: Condition 9 (Table 4) for the facultative	The Licence Holder has stated that the WWTF consists of eight (8) facultative ponds and five (5) evaporation ponds.	The department has updated this within the licence.

Condition / Section	Summary of Licence Holder's comment	Department's response
wastewater treatment ponds and treated wastewater evaporation ponds		
Licence: Condition 9 (Table 4) for the Beneficiation plant – Trains 1 and 2	The Licence Holder has stated "*as per previous correspondence with DWER drainage around the Trains will be managed via asphalt, drains and concrete bunded areas ensuring that all stormwater is directed to sump pumps and/or the retention sump*." The Licence Holders proposes the removal of the term "kerbs" as various stormwater controls are implemented.	The term 'kerbs' has been removed.
Licence: Condition 10 (Table 5)	The Licence Holder has stated as per the above comments around stormwater management measures, it is proposed to remove the terms "kerbs" or "kerbing" and instead use the term "bunding".	The term 'kerbs' or 'kerbing' has been removed and replaced with 'bund; and 'bunding' as applicable.
Licence: Condition 26 (Table 11) for TSF3 piezometer readings	The Licence Holder has stated that they propose to conduct groundwater level reading manually each month as per L4328.	The department has changed the method for the monitoring from data logger to manual.
Licence: Condition 27 (Table 12) for TSF3E	The Licence Holder have stated that monitoring locations TSF7 and TSF8 (Path2MB) are proposed monitoring bores which are currently constrained and there is no clear timeframe for when these will be drilled.	The department has removed these bores.
Licence: Draft Condition 33	The Licence Holder propose that this condition is removed. The Aquatic Fauna Survey has been completed.	Draft conditions 33 and 34 have been removed. The department will review and assess the Aquatic Fauna Survey outside of this licence amendment. Condition 7 of W6132/2018/1 remains open until the department has deemed this condition compliant.
Licence: Draft Condition 34	The Licence Holder propose to remove this condition. Aquatic Fauna Survey Report includes copies of NATA accredited laboratory reports, comparison with ANZECC guidelines and WRM recommendations, is completed and submitted with this Licence Draft Response.	
Licence: Condition 35 (now condition 34)	The Licence Holder propose to deliver the DTA 12 months after the completion of the Aquatic Survey Report. This timeframe will allow sufficient time for completion of the DTA. The Licence Holder therefore propose to amend the delivery date of the DTA to 30 April 2023.	The department has changed the submission date to 30 April 2023.

Condition / Section	Summary of Licence Holder's comment	Department's response
Licence: Condition 40 (Table 14) (now condition 39)	The Licence Holder submitted a notification to the department for the re-start of Train 2 (scheduled for Week 26, 2022) to meet the requirements of this draft condition. The Licence Holder requests that the notification requirement for Train 2 be removed.	The draft notification requirement for the re-commencement of Train 2 has been removed. The department notes that Train 2 was scheduled to commence re-commissioning in the week commencing 20 June 2022.
Amendment Report Section 2.2 Overview of Premises	The Licence Holder has requested that TSF3 remain on the L4328 infrastructure list. TSF3 is currently inactive however tailings capacity remain and MARBL are currently investigating re-opening the facility in the future. MARBL will engage with DWER and DMIRS prior to re-opening the TSF3 facility.	Reference to TSF3 has not been made in the Amendment Report or Licence. This amendment authorises the discharge of tailings to TSF3E only. If the Licence Holder wishes to utilise TSF3 (which is currently inactive) in the future for the disposal of tailings, then a separate application will need to be made to the department for this assessment.
	The Licence Holder has clarified that there are also production bores approved around site that are not in proximity to the Three main borefield localities.	The department notes this, but no changes have been made to the Amendment Report or Licence regarding this.
	The Licence Holder has stated that the original fixed plant has been removed. The "secondary" fixed crushing plant is currently the fixed plant supplying crushed ore to the Beneficiation Plant (approved under W6132). The Licence Holder has requested that this facility be referred to as the "fixed plant".	The department has included the following (in red): • Three mobile crushing and screening plants; • A fixed plant; • A wastewater treatment facility (WWTF) comprising eight lined facultative treatment ponds and five lined evaporation ponds; • Accommodation village and overflow village.
	The Licence Holder has also requested to retain the three approved locations for mobile crushing and screening plants to support the site as operations ramp up.	
	The Licence Holder has stated that W6132 originally approved one additional Evaporation Pond however, in consultation with the department this strategy was updated. The WWTF now consists of eight (8) facultative ponds and five (5) evaporation ponds. The compliance document received on 13 February 2019 included the updated design in Appendix F.	

Condition / Section	Summary of Licence Holder's comment	Department's response
	The Licence Holder also made reference to there being an overflow village as well as accommodation village.	
Amendment Report Section 2.3.1 WWTF	The Licence Holder has requested that the heading be changed to "WWTF Expansion" and any references to Pond 4 in this section updated to Expansion.	The department has updated the Amendment Report based on this request.
Amendment Report Section 2.3.4 Aquatic Habitat Survey	The Licence Holder has stated that the survey is complete and final report is available. This report was submitted on the 20 June 2022.	The department has updated this section with the following: *"The Licence Holder provided the Wodgina Lithium Project Aquatic Fauna Habitat Survey (MRL 2022b) on 20 June 2022. The department will review this Aquatic Habitat Survey outside of this licence amendment (refer also to Appendix 1 W6132/2018/1 Condition No.7)."*
Amendment Report Section 2.3.4 DTA	The Licence Holder proposes a delivery date 12 months after the completion of the Aquatic Survey Report. This timeframe will allow sufficient time for completion of the DTA. The Licence Holder propose to amend the delivery date of the DTA to 30 April 2023.	The department has updated the submission date for the DTA to 30 April 2023.

Appendix 5: Application validation summary

<table>
<tr><th colspan="6">SECTION 1: APPLICATION SUMMARY</th></tr>
<tr><td colspan="6">Application type</td></tr>
<tr><td rowspan="2">Amendment to licence</td><td rowspan="2">☒</td><td>Current licence number:</td><td colspan="3">L4328/1989/10</td></tr>
<tr><td>Relevant works approval number:</td><td>W6132/2018/1</td><td>N/A</td><td>☐</td></tr>
<tr><td colspan="2">Date application received</td><td colspan="4">16/11/2021
Revised application form received (18/03/2022)</td></tr>
<tr><td colspan="6">Applicant and Premises details</td></tr>
<tr><td colspan="2">Applicant name/s (full legal name/s)</td><td colspan="4">MARBL Lithium Operations Pty Ltd (ACN 637 077 608)</td></tr>
<tr><td colspan="2">Premises name</td><td colspan="4">Wodgina Operations</td></tr>
<tr><td colspan="2">Premises location</td><td colspan="4">M45/49, M45/50, M45/254, M45/353, M45/381, M45/382, M45/383, M45/886, M45/887, M45/923, M45/924, M45/925, M45/949, M45/1188, M45/1252, G45/290, G45/291, G45/321, MARBLE BAR WA 6760</td></tr>
<tr><td colspan="2">Local Government Authority</td><td colspan="4">Town of Port Hedland</td></tr>
<tr><td colspan="6">Application documents</td></tr>
<tr><td colspan="2">HPCM file reference number:</td><td colspan="4">DER2013/001044-1</td></tr>
<tr><td colspan="2">Key application documents (additional to application form):</td><td colspan="4">Licence Amendment L4328/1989/10 – Supporting Documentation – Revision 0, Prepared under Part V of the Environmental Protection Act 1986 (A2064647)</td></tr>
<tr><td colspan="6">Scope of application/assessment</td></tr>
<tr><td colspan="2">Summary of proposed activities or changes to existing operations.</td><td colspan="4">Licence amendment to:
Include the infrastructure and equipment constructed and commissioned under W6132/2018/1;
Include category 57 for the storage of 500 tyres per annum prior to disposal; and
Expansion of the prescribed premises boundary.</td></tr>
</table>

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	8,750,000 tonnes per annual period	No change
Category 52: Electric power generation	64 MW	No change
Category 54: Sewage facility	210 cubic metres per day	No change
Category 57: Used tyre storage	-	500 tyres per annual period
Category 85B: Water desalination plant	0.82 gigalitres	No change
Category 89: Putrescible landfill site	3,350 tonnes per annual period	No change

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 ☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☐ No ☒	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☒ Expiry: Other evidence ☐ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	Approval: Expiry date: If N/A explain why? Mining tenure
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	No clearing is proposed.

Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	Name: Pilbara Type: Proclaimed Groundwater Area and Surface Water Area Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☒ Regional office: North West
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☐ N/A ☒
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	*Environmental Protection (Unauthorised Discharges) Regulations 2004* Mining Proposals regulated under the *Mining Act 1978*
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	N/A
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	N/A
Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Classification: Possibly contaminated – investigation required (PC–IR) Date of classification: 20/05/2011