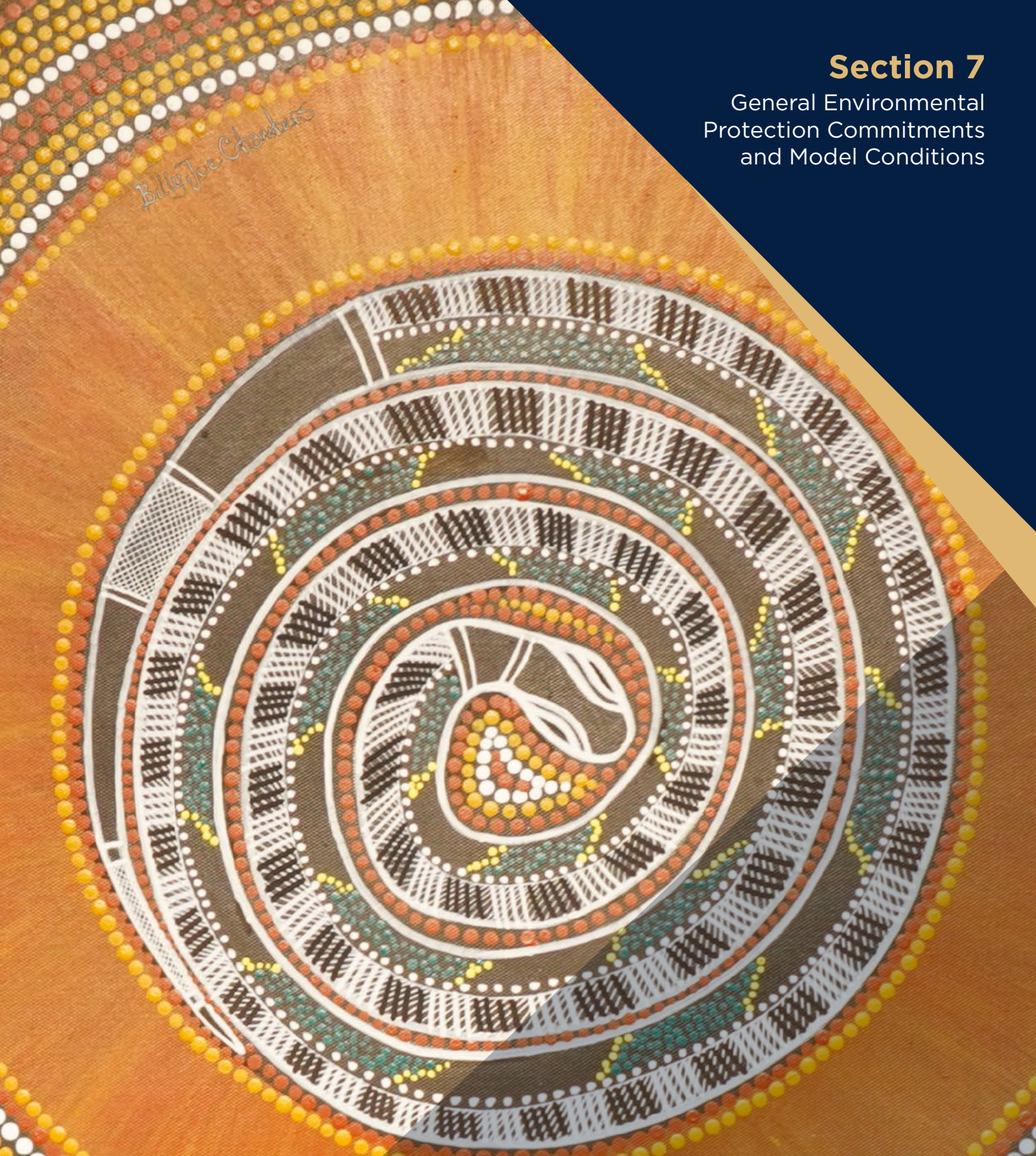
# Section 7

General Environmental Protection Commitments and Model Conditions




# WINCHESTER SOUTH PROJECT

Environmental Impact Statement

WHITEHAVEN COAL

Resource Strategies

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# 7 GENERAL ENVIRONMENTAL PROTECTION COMMITMENTS AND MODEL CONDITIONS

## 7.1 GENERAL ENVIRONMENTAL PROTECTION COMMITMENTS

This section provides a summary of the proposed environmental protection commitments for the Project, including mitigation, monitoring, auditing and reporting.

A summary of management, monitoring and reporting commitments for the Project is provided in Table 7-1. In addition to this, a summary of commitments made by Whitehaven WS throughout the EIS is provided in Table 7-2.

Note, certain documents described in Tables 7-1 and 7-2 and/or elsewhere in this EIS may be developed as part of an overarching plan (e.g. a PRC Plan) or otherwise renamed or consolidated in accordance with environmental authority conditions or legislation and policy requirements.

***Health, Safety, Environmental and Community Policy***

Whitehaven has a documented Health, Safety, Environmental and Community Policy that applies to Whitehaven WS. This policy states that Whitehaven aims to (Section 1.2):

- *Achieve zero workplace injuries and illnesses.*
- *Achieve zero environmental incidents.*
- *Maintain mutually beneficial relationships with the communities which host our operations.*

Furthermore, Whitehaven intends to conduct business in a way that maintains a safe and healthy workplace for its workers, visitors and the surrounding community, and also protects the environmental, community and cultural heritage values of the area throughout all stages of the Project – exploration, development, operation, progressive rehabilitation, closure and associated activities.

The policy applies to all workers and visitors at sites managed by Whitehaven and its subsidiaries.

## 7.2 CONSULTATION AND COMMUNITY

In addition to the designated public consultation periods, consultation and input from the public would continue to be encouraged by Whitehaven WS throughout the environmental impact assessment process. This would continue to be achieved through regular community information sessions, community newsletters, a dedicated Project officer as a community contact point and the Project-specific website, in accordance with the community and stakeholder engagement plan detailed in the SIA (Table 7-2 and Appendix C).

## 7.3 ENVIRONMENTAL REPORTING

### 7.3.1 Annual Return

If required by the administering authority, Whitehaven WS would prepare and submit an annual return in accordance with section 316IA of the EP Act.

### 7.3.2 Third Party Reporting

Whitehaven WS would engage a suitability experienced and qualified person to prepare a report on compliance with the conditions of the Project environmental authority in accordance with the proposed environmental authority Condition A17 (Section 7.4). The report on compliance would be prepared within one year of the commencement of the environmental authority and further reports would be prepared at regular intervals, not exceeding three years from the completion of the previous report.

### 7.3.3 Other Reporting Mechanisms

Whitehaven WS would conduct annual reporting of greenhouse gas emissions, energy production, energy consumption and any other information required under the NGER Act (Section 1.7).

### 7.3.4 Review of Management Plans

All management plans and monitoring programs would be periodically reviewed by Whitehaven WS to assess the scope and frequency of monitoring.

**Table 7-1**
**Summary of Management, Monitoring and Reporting Commitments for the Project**

| Proposed Management, Monitoring and Reporting | EIS Section Reference | Proposed Environmental Authority Condition |
|---|---|---|
| ***Management and Monitoring*** | | |
| Receiving Environment Management Program (REMP) | Sections 4.1.4 and 4.2.4; Appendices B and E | Conditions F20 to F23 |
| Water Management Plan | Sections 4.1.4 and 4.2.4; Appendices A, D and E | Conditions F27 to F30 |
| Erosion and Sediment Control Plan | Sections 4.1.4, 4.2.4 and 4.10.4; Appendices B, D and E | Conditions F31 to F34 |
| Groundwater Monitoring Program | Section 4.2.4; Appendix A | Condition E3 |
| Underground Water Impact Report (UWIR) | Section 4.2.4; Appendix A | -[1] |
| Surface Water Monitoring Program | Sections 4.1.4 and 4.2.4; Appendix B | - |
| Social Impact Management Plan (SIMP) | Sections 4.4.4 and 4.4.5; Appendices C and K | - |
| Noise Management Plan | Section 4.7.4 | - |
| Blast Management Plan | Section 4.7.4 | - |
| Cultural Heritage Management Plan (CHMP) | Section 4.12.3; Appendices C and K | -[2] |
| Air Quality Management Plan | Section 4.8.4; Appendix H | Condition B5 |
| Progressive Rehabilitation and Closure Plan | Sections 4.10.3, 4.11.4 and 6; Appendices D and J | Condition H2 |
| Environmental Management Plan | Section 4.14.4; Appendices D, E and J | - |
| Species Management Program | Section 4.5.4; Appendix D | -[3] |
| Matters of National Environmental Significance Management Plan (MNES Management Plan) | Appendix D | - |
| Register of Regulated Structures | Section 4.3.5 | Conditions I30 to I35 |
| Offset Management Strategy and Notice of Election | Section 1.7 and Attachment 5 | - |
| Risk Management System | Section 4.13.4 | Condition A12 |
| Emergency Response Procedure | Section 4.13.4; Appendix D | - |
| Waste Management Program | Sections 4.1.4 and 4.15.4 | - |
| ***Reporting*** | | |
| Annual Return | Sections 6.6.5 and 7.3.1 | -[4] |
| Third Party Reporting on Compliance | Section 7.3.2 | Condition A17 and A18 |
| Annual Reporting on the Findings of the REMP | Section 7.4.6 | Condition F23 |
| Annual Inspection Report of Regulated Structures | Section 7.4.9 | Conditions I22 to I25 |
| Greenhouse Gas Reporting | Section 4.8.5 | -[5] |
| Post-mining Management Report | Section 6.6.1 | - |

[1] Required under section 361 of Chapter 3 of the Water Act.

[2] Required under section 87 of the ACH Act.

[3] Required under section 335 the NC Animals Regulation.

[4] Required under section 316IA of the EP Act.

[5] Required under Part 3 of the NGER Act.

**Table 7-2**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Rehabilitation | The Project would be progressively rehabilitated to achieve the rehabilitation objectives established for each domain. The progress of the rehabilitation would be monitored against rehabilitation milestones and completion criteria to demonstrate successful rehabilitation of the Project.<br>The rehabilitation goals for the Project would be to create a post-mining landform that is safe, stable, non-polluting, and able to sustain a PMLU (on all areas other than the NUMAs). |
| | The rehabilitation monitoring program would be developed and carried out by an appropriately qualified and experienced person. The monitoring program would be designed to reflect the rehabilitation milestones and completion criteria and to identify the requirement for intervention and/or remedial activities. |
| | Waste rock emplacements have been designed with shallow slopes, generally up to 10° (18%), that would be revegetated to minimise erosion and sustain a low-intensity cattle grazing PMLU. |
| | Residual void highwalls would be designed to remain stable in the long-term, based on site-specific geological data and geotechnical modelling. |
| | Residual void highwalls would be bunded and fenced to prevent access. |
| | Disturbance due to exploration activities in areas not scheduled or authorised to be mined within two years would be rehabilitated in accordance with provisions detailed in the *Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects* (DEHP, 2016b). |
| | Residual voids are located outside the extent of predicted flooding events in the Isaac River, up to and including the PMF event. |
| | The majority of the Project area would be rehabilitated to sustain a PMLU of low-intensity grazing, consistent with the pre-mining land use within and surrounding the Project area. |
| | Four residual voids would remain as NUMAs in the final landform. |
| | All infrastructure associated with the Project would be assessed on an individual basis and either decommissioned and removed, or retained for future use as part of the PMLU. Any retained infrastructure would be commensurate with the low-intensity grazing PMLU and may include (but would not be limited to) dams, access roads and fences.<br>Where infrastructure is decommissioned and removed, the land would be shaped, topsoiled, ripped and revegetated. Disturbed areas would be rehabilitated with an appropriate seed mix to enable revegetation. |
| | In accordance with the *EIS Information Guideline –Contaminated Land* (DES, 2020i), potentially contaminated land would undergo preliminary (Stage 1) and detailed (Stage 2) site investigations by a suitably qualified person to identify any existing land contamination. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Surface Water | Key principles that would be applied for the Project include:<br>▪ separation of clean, sediment-laden and mine-affected water, within the limitations of operational requirements;<br>▪ minimisation of surface disturbance areas, thus minimising the volume of sediment-laden and mine-affected water generated by the Project;<br>▪ all water storage dams, structures and facilities would be designed, constructed and managed in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures* (DES, 2016a);<br>▪ water storage dams that manage mine-affected water would be designed and operated to minimise uncontrolled releases to the receiving environment;<br>▪ water for construction and operational purposes would be preferentially sourced from dedicated on-site water storage dams;<br>▪ water collected in water storage dams and sediment dams would be captured and retained for reuse on-site where possible (e.g. dust suppression, CHPP demand) and/or controlled release off-site to the receiving environment in accordance with the *Model water conditions for coal mines in the Fitzroy basin* (DES, 2013);<br>▪ surface runoff from rehabilitated waste rock emplacements during operation of the Project would be directed to dedicated sediment dams for settling and release to the receiving environment or to mine-affected water storages for reuse; and<br>▪ where feasible, sourcing external water requirements from surrounding mining operations to reduce take from the environment or raw water supplies. |
| | Mine-affected water would be managed through the site water management system which is designed to operate in accordance with *Guideline – Model mining conditions* (DES, 2017a) and the *Model water conditions for coal mines in the Fitzroy basin* (DES, 2013). That is, it would have controlled releases conditions in accordance with the *Guideline – Model mining conditions* (DES, 2017a) and the *Model water conditions for coal mines in the Fitzroy basin* (DES, 2013). |
| | A Water Management Plan would be prepared cognisant of the DES guideline for the *Preparation of water management plans for mining activities* (DERM, 2010). Proposed monitoring sites are shown on Figure 10.3 of Appendix B. |
| | To achieve the 'no mine-affected water storage uncontrolled release' objective, the mine would be operated such that water could be temporarily stored in the active open pit if required (e.g. as a result of exceedance of the design capacity of the water management system). |
| | Whitehaven WS would prepare a REMP for the Project in accordance with the *Guideline – Model mining conditions* (DES, 2017a). |
| | Conditions have been developed for potential controlled water releases to the Isaac River, based on the *Guideline - Model mining conditions* (DES, 2017a) and *Model water conditions for coal mines in the Fitzroy basin* (DES, 2013). |
| | Monitoring of upstream, on-site and downstream water quality would assist in demonstrating that the site water management system is effective in meeting its objective of minimal impact on receiving water quality. Monitoring would also allow for early detection of any impacts and appropriate corrective action. |
| | Surface runoff and seepage from waste rock emplacements, including any rehabilitated areas during operations, would be monitored for 'standard' water quality parameters, including but not limited to pH, EC, alkalinity, major anions, major cations, TDS and a broad suite of soluble metals/metalloids. |
| | Sediment dams would be designed based on the *Best Practice Erosion and Sediment Control Guideline* (IECA, 2018). |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Surface Water (Continued) | Initially, the sediment dam monitoring would occur on a regular (e.g. quarterly) basis to demonstrate the water quality of stored waters is consistent with the relevant operating parameters to allow releases from sediment dams to occur when required. Subject to demonstrating the WQOs can be met, the frequency of monitoring and suite of parameters for the sediment dam monitoring would be reviewed and updated accordingly (e.g. to occur only when releases occur). |
| | Whitehaven WS would implement a number of mitigation and management measures for the mine-affected water dams including:<br>▪ operational measures that would allow for the practical limitations of being able to redistribute stored volumes across the containment system (including operability of equipment under extreme weather conditions);<br>▪ annual inspections to assess the condition and adequacy of all components of the regulated structures; and<br>▪ establishing and maintaining a register of regulated structures. |
| Groundwater | Monitoring of groundwater levels from existing monitoring bores and VWPs would continue and would enable natural groundwater level fluctuations (such as responses to rainfall) to be distinguished from potential groundwater level impacts due to depressurisation resulting from proposed mining activities. Several bores within the extent of proposed mining operations would continue to be monitored until they are no longer available due to mine progression. Proposed monitoring locations are shown on Figure 8-1 of Appendix A. |
| | Groundwater quality monitoring would continue to be undertaken on a quarterly basis. In addition to collecting field parameters (EC and pH), water samples would be submitted to a NATA accredited laboratory for analysis of:<br>▪ physio-chemical indicators (TDS and TSS);<br>▪ major ions, hardness and ionic balance;<br>▪ total alkalinity as $CaCO_3$, $HCO_3$, $CO_3$;<br>▪ total and dissolved metals;<br>▪ nutrients; and<br>▪ organics. |
| | Subject to accessibility, quarterly groundwater quality monitoring would continue to be conducted on privately-owned bores near to the Project. |
| | Groundwater quality triggers would be established to monitor predicted impacts on both environmental values and predicted changes in groundwater quality. |
| | The groundwater quality triggers would be developed in consideration of *Using monitoring data to assess groundwater quality and potential environmental impacts* (DSITI, 2017), Water Plan WQOs, ANZECC & ARMCANZ (2000) criteria and site-specific conditions. Impact assessment criteria for the site would be documented within a Water Management Plan. |
| | An annual review of groundwater quality trends would be conducted by a suitably qualified person. The review would assess the change in groundwater quality over the year, compared to historical trends and impact assessment predictions. |
| | Every five years, the validity of the groundwater model predictions would be assessed and if the data indicates significant divergence from the model predictions, the groundwater model would be updated for simulation of mining. |
| | A UWIR would be prepared in accordance with Chapter 3 of the Water Act. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Flood Management | Temporary flood levees would be progressively constructed as required to provide flood protection to Project operations. |
| | The flood levees would be designed to a height that would provide protection against the peak flood height associated with a 0.1% AEP flood event. |
| | Detailed design plans of the proposed temporary flood levees together with a consequence assessment and certification by a suitably qualified and experienced person(s) would be prepared prior to construction for assessment and approval by the administering authority in accordance with proposed environmental authority conditions |
| | During the detailed design phase, the model results would be used to identify potential locations of high flow velocity and scour potential. This information would be used to inform the appropriate level of scour protection along the proposed temporary levees. |
| Waste Rock and Rejects | A Waste Management Program would be developed that would describe the handling and disposal of fine reject and coarse reject material for the Project. |
| | Where highly sodic and/or dispersive waste rock is identified, it would not report to final landform surfaces and would not be used in construction activities, wherever practicable. |
| | It may not be practical to selectively handle and preferentially emplace highly sodic and dispersive waste rock during operation of the Project. However, reasonable measures would be taken to identify and selectively place (or alternatively manage) highly sodic and dispersive waste rock. |
| | Where waste rock is used for construction activities, this would be limited (as far as practical and feasible) to unweathered Permian sandstone, as this material is widely accepted to be more suitable for construction and for use as embankment covering on final landform surfaces. |
| | Regardless of the waste rock type, especially where engineering or geotechnical stability is required, laboratory testing and rehabilitation field trials would be undertaken to determine the propensity for dispersion and erosion of waste rock landforms. |
| | Geochemical test-work validation for coal reject from the CHPP would be undertaken during development of the Project, particularly during the first two years of CHPP operation and whenever new seams/plies are being processed. Test-work would comprise a broad suite of environmental geochemical parameters, such as pH, EC, acid-base account parameters and total and soluble metals/metalloids. |
| Biodiversity Offsets | Where the Project would result in a significant residual impact, Whitehaven WS would provide an environmental offset. |
| | Offsets would be established for the Project in stages, in accordance with the *Queensland Environmental Offsets Policy (Version 1.9)* (DES, 2020c), accounting for the progressive disturbance of the Project. |
| Flora and Fauna | Whitehaven WS would develop and implement an Environmental Management Plan outlining (amongst other things) vegetation clearing measures, weed management and animal pest management. A monitoring program that includes weed monitoring and animal pest monitoring would be included. |
| | Whitehaven WS would prepare a species management program in accordance with section 335 of the NC Animals Regulation for approval by the DES prior to undertaking any activities that would disturb animal breeding places. |
| | Pest and weed control/management measures would be implemented every six months, or as required during weather conditions which are conducive to the outbreak of weeds and feral animal populations. |
| | Whitehaven WS would implement artificial lighting in accordance with Australian Standards, and in a way that focuses on disturbance/work areas and minimises/avoids lighting of remnant vegetation (Appendix D). |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Flora and Fauna (Continued) | Vegetation clearance measures would be developed and implemented for the Project:<br>▪ Pre-clearance fauna surveys would be undertaken by suitably experience and qualified persons to identify individual fauna at direct risk from clearing activities.<br>▪ A suitably experienced and qualified fauna spotter/catcher would be present during the clearing of MSES and MNES habitat areas.<br>▪ Management of fauna identified during clearing and pre-clearance surveys would include relocating individuals to adjacent habitat or treating injuries.<br>▪ If a koala is found, it would be left to move away from the clearance area on its own accord if safe to do so.<br>▪ Boundaries of areas to be cleared, and those not to be cleared would be clearly defined during clearing activities.<br>▪ Select habitat features (e.g. hollow-bearing trees, woody debris, logs and rocks) would be salvaged for re-use in rehabilitation of the Project.<br>▪ Land clearing would be carried out progressively over the life of the Project to allow mobile fauna species the opportunity to disperse away from clearing areas.<br>▪ Directional clearing towards retained vegetation would be undertaken where practical to enable the movement of fauna into retained vegetation.<br>▪ During construction works, work areas and excavations (trenches) would be checked for fauna that may have become trapped.<br>▪ If trenches remain open after daily site works have been completed, fauna ramps would be put in place. |
| | The following feral animal management measures would be implemented:<br>▪ Maintaining a clean, rubbish-free environment to deter feral animals.<br>▪ Engaging appropriately qualified persons to undertake biannual pest animal monitoring in the Project mining lease areas, which may include coordination with adjoining mining operations/adjacent landowners.<br>▪ Feral animal control strategies (e.g. baiting and trapping) within the Project mining lease areas in accordance with relevant standards and the *Isaac Regional Biosecurity Plan 2020-2023* (Isaac Regional Council, 2020a).<br>Monitoring of feral animals would be undertaken by an appropriately qualified contractor to identify whether new or additional control measures are required. |
| | During the life of the Project, the following management measures would be implemented, to mitigate the abundance and species of weeds in the Project area and surrounds and minimise the potential for weeks to spread to adjacent areas:<br>▪ Bi-annual surveying of tracks, revegetation (rehabilitation) areas and soil stockpiles, etc. (or more frequently as required), to identify weeds requiring control.<br>▪ Washdown of machinery and vehicles when moving to/from weed infested areas.<br>▪ Mechanical removal of identified weeds and/or the application of approved herbicides.<br>▪ Weed control methods in accordance with those specified by the DAF and the *Isaac Regional Biosecurity Plan 2020-2023* (Isaac Regional Council, 2020a). |
| | Whitehaven WS would implement management measures to reduce impacts to fauna species due to vehicular strike such as (Appendix D):<br>▪ designating speed limits for the Project area;<br>▪ developing a process for the removal of roadkill to minimise the risk of attracting fauna to the roadway; and<br>▪ developing a process for the management of fauna injured by vehicle strike. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Social | The operational workforce for the Project would not be a 100% FIFO workforce. |
| | A SIMP has been prepared for the Project which comprises a Workforce Management Plan, Housing and Accommodation Plan, Local Business and Industry Procurement Plan, Health and Community Wellbeing Plan, and Community and Stakeholder Engagement Plan. |
| | Whitehaven WS's recruitment strategy for the Project would provide equitable access to employment opportunities and prioritise local recruitment by applying the following order of priority for recruitment:<br>1. The 'local' towns of Moranbah, Dysart and Coppabella.<br>2. Nearby regional communities within a 125 km radius from the Project entrance.<br>3. The Isaac region as per the Isaac Regional Council LGA.<br>4. The Mackay Whitsunday region.<br>5. The State of Queensland.<br>6. Outside the State of Queensland. |
| | Key commitments made by Whitehaven WS with regard to workforce management include:<br>▪ Implementing a recruitment hierarchy which prioritises employment of local residents.<br>▪ Applying the Whitehaven Equal Employment Opportunities Policy to all employment aspects of the Project.<br>▪ Identifying specific positions which qualify for job share/flexible shift arrangements. Such jobs may be made available as both full-time or job share/flexible shift and will be advertised in local towns as a priority.<br>▪ Not advertising any job opportunities as FIFO only.<br>▪ Collaborating with the Barada Barna Aboriginal Corporation, DSDSATSIP, DESBT and other government agencies to design and implement programs (such as 'Skilling Queenslanders for Work') which support target groups such as youth.<br>▪ Providing on-site first aid facilities for workers with appropriately trained personnel available that can assist with attending to minor workforce health issues, as well as providing first response services for emergency situations and site accidents.<br>▪ Ongoing consultation and collaboration with police, workforce accommodation providers and other stakeholders to identify and address any antisocial or disruptive workforce behaviour in local communities.<br>▪ Managing workforce health and safety through implementation of the Whitehaven Coal Health and Safety Management System. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Social (Continued) | Key commitments made by Whitehaven WS with regard to housing and accommodation include:<br>▪ Facilitating the construction of a maximum of 34 new houses in Moranbah dedicated for Project employees.<br>▪ Providing a financial contribution of $500,000 over the Project life to the Isaac Affordable Housing Trust and/or Emergency and Long-Term Accommodation Moranbah Inc for the construction of additional affordable housing in Moranbah.<br>▪ Providing subsidised housing costs for members of the workforce who choose to live locally.<br>▪ Providing high quality workforce accommodation to non-resident personnel and monitoring workforce satisfaction with the provided accommodation.<br>▪ Providing support to members of the workforce seeking to move to local communities (e.g. providing connections to local advice and support). |
| | Key commitments made by Whitehaven WS with regard to local business and industry procurement include:<br>▪ Preparing and adopting a procurement policy and plan consistent with relevant regulations.<br>▪ Collaborating with the Moranbah Traders Association, Local Content Leaders Network, Regional Industry Network and any other appropriate stakeholders in establishing a local supplier listing tailored to the Project.<br>▪ Maximising opportunities for local businesses to provide goods and services to the Project.<br>▪ Facilitating and supporting delivery of a tender readiness program for Indigenous businesses, in collaboration with Barada Barna Aboriginal Corporation, DESBT, DSDSATSIP and any other appropriate stakeholders. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Social (Continued) | Key commitments made by Whitehaven WS with regard to health and community wellbeing include:<br>▪ Collaborating with the Isaac Regional Council to determine the most effective contribution which may be made to a childcare solution (maximum of $200,000 within Years 1 to 5 of the Project).<br>▪ Monitoring workforce demands on childcare and education services and working with the Isaac Regional Council to support solutions to cumulative demands on social services.<br>▪ Supporting the establishment of, and participating in, a Moranbah Cumulative Reference Group which is appropriately represented across government and industry, providing a forum for a partnered approach to cumulative effects.<br>▪ Providing a contribution of $30,000 per year for the life of the Project, split between local mental health, domestic violence and suicide prevention programs.<br>▪ Monitoring and managing dust, noise and vibration issues associated with the Project, including preparation of an Air Quality Management Plan, and regularly communicating the results with the local community.<br>▪ Providing shuttle buses to transport a portion of workers for the Project.<br>▪ Notifying stakeholders of material Project traffic related activities, such as closures due to roadworks, and implementing a complaints mechanism to identify, track and remediate (in accordance with any conditions of the environmental authority) community complaints.<br>▪ Developing and implementing a workforce code of conduct describing positive behavioural outcomes and prohibiting negative behaviours.<br>▪ Ongoing consultation and collaboration with police, workforce accommodation providers and other stakeholders to identify and address any antisocial or disruptive workforce behaviour in local communities.<br>▪ Providing a contribution to support community culture and well-being through the Whitehaven Community Fund, which would invite community organisations to apply for annual funding. |
| | Key commitments made by Whitehaven WS with regard to community and stakeholder engagement include:<br>▪ Maintaining a Project officer as a dedicated community contact point.<br>▪ Continuing to engage with local and surrounding landholders to monitor overall Project impacts.<br>▪ Continuing to engage with local service providers including schools, health and other social services regarding Project related activities that have potential to impact on the community (e.g. blasting or road closures).<br>▪ Establishing, publicising and maintaining a readily accessible community complaints and resolution process.<br>▪ Establishing and maintaining long-term respectful relations with the Barada Barna Aboriginal Corporation, including managing cultural heritage in accordance with the CHMP and meeting the requirements of any native title agreement.<br>▪ Regularly engaging with the Isaac Regional Council to monitor the implementation of the SIMP. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Social (Continued) | The SIMP as a whole would also be reviewed regularly to assess the effectiveness and relevancy of the SIMP. Whitehaven WS will review, and, if necessary, revise the SIMP every two years for the first four years of the Project and every three years up to Year 10 of the Project. The SIMP may be reviewed and revised within a shorter period of time should Whitehaven WS consider the amendment of the SIMP necessary. |
| | Whitehaven WS would consult with relevant stakeholders to revise the SIMP to ensure actions accurately reflect the existing socio-economic context and updated operational elements, such as additional workers. |
| Noise | Whitehaven WS intends to reach a mutually beneficial agreement with the land owner of the Olive Downs Homestead regarding acoustic treatment or other suitable measures. |
| | Project noise adaptive management measures would include:<br>▪ response to community issues or complaints including discussions with relevant landowners;<br>▪ refinement of on-site noise mitigation measures and mine operating procedures, where required and practicable;<br>▪ use of real-time noise and meteorological monitoring as a management tool; and<br>▪ if necessary (i.e. as informed by operational noise monitoring results and subject to any agreements), implementation of feasible and reasonable mitigation at relevant sensitive receptors, in accordance with the Noise EPP. |
| Blast Management | Noise and vibration management and monitoring would be undertaken for the Project. |
| Air Quality | General dust mitigation measures would be implemented for the Project to minimise dust generated by wheel-generated dust and grading, drilling, ROM unloading at the CHPP, crushing and train loading activities and by wind erosion of product coal stockpiles. |
| | Whitehaven WS would implement chemical dust suppressant on selected haul roads (or alternative technologies with equivalent effectiveness) as required. |
| | Whitehaven WS would implement proactive and reactive dust control measures. These measures would include the use of weather forecasting and real-time measurement of dust levels and meteorological conditions to modify mining operations as required in order to achieve compliance with applicable air quality objectives at the nearest privately-owned receivers. |
| | Potential emissions associated with product coal transport (i.e. via rail) would be managed by profiling of the coal in wagons and the use of a veneering system (i.e. spray of the coal surface in the wagons). |
| | Meteorological data and dust levels would be monitored on an ongoing basis at the Project for the implementation of operational dust controls. |
| | If necessary (i.e. as informed by operational noise monitoring results and subject to any agreements), feasible and reasonable mitigation at relevant sensitive receptors would be implemented, in accordance with the Air EPP. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Greenhouse Gas Management | Whitehaven WS would develop a plan to abate carbon dioxide emissions, which would include the following initiatives to mitigate, reduce and manage greenhouse gas emissions from the Project:<br>▪ regular maintenance of plant and equipment to minimise fuel consumption and associated emissions, including training staff on continuous improvement strategies regarding efficient use of plant and equipment;<br>▪ regular assessment, review and evaluation of greenhouse gas reduction opportunities;<br>▪ procurement of policies that require the selection of energy efficient equipment and vehicles;<br>▪ monitor and maintain equipment in accordance with manufacturer recommendations; and<br>▪ optimise diesel consumption through logistics analysis and planning (e.g. review of the mine plan to optimise haul lengths, dump locations, and road gradients). |
| Transport | Whitehaven WS would implement the following mitigation and management measures regarding road transport:<br>▪ continued Project travel demand management through use of, for example, shuttle bus services, car-pooling and staggering of shift times;<br>▪ design and construction of the new intersection of the mine access road with Eagle Downs Mine Access Road consistent with DTMR's guidelines;<br>▪ appropriate contributions to Isaac Regional Council's maintenance of Moranbah Access Road and Peak Downs Mine Road to address specific safety risks identified during the risk assessment; and<br>▪ appropriate contributions to DTMR and Isaac Regional Council to support pavement reconstruction and rehabilitation works. |
| | The Project rail spur would be designed and constructed in consultation with Aurizon to minimise potential impacts on the existing environment in accordance with relevant guidelines, including the *Guide to Development in a Transport Environment: Rail* (DTMR, 2015). |
| | Project trains would be operated and coordinated by Aurizon or another suitably qualified operator. |
| | Existing local and regional infrastructure would be used to transport product coal to the port for export. |
| Land | Erosion and sediment controls would be developed and documented for the Project. |
| | Soil stripping and handling measures would be undertaken in accordance with the PRC Plan (or other management plan) to be developed for the Project. |
| | A soil inventory would be maintained during the life of the Project and detailed in the PRC Plan (or other management plan). The soil inventory would account for the volumes and locations of soil to be progressively stripped, stockpiled and reapplied. |
| | Whitehaven WS would implement appropriate mitigation measures and management (Section 4.10.4) to prevent or reduce the potential for contamination from the Project. If evidence of unexpected contamination is identified, work would cease in that area and action taken to appropriately delineate the contaminated soil or fill material which would be managed or remediated and validated under supervision of a suitably qualified person. |
| | Prior to any activity associated with the Project upon any relevant lands, all appropriate land tenure would be secured and all necessary approvals and/or consents from all parties holding a lawful interest in the relevant lands would be obtained. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Waste | Whitehaven WS would manage the waste produced at the Project in accordance with the waste and resource management hierarchy in the WRR Act (i.e. "avoid, reduce, reuse, recycle, recover, treat, and dispose"). If waste must be disposed of, Whitehaven WS would do so in a way that prevents or minimises adverse effects on environmental values. |
| | A Waste Management Program would be developed and implemented for the Project and would describe the objectives and measures for protecting environmental values from potential impacts associated with waste. |
| Safety | The following processes and measures would be implemented:<br>▪ Development and implementation of a Risk Management System.<br>▪ Handling, storage and disposal of Hazardous Materials at the Project would be in accordance with relevant legislation, standards and guidelines.<br>▪ The management of all chemicals stored and used at the Project would be in accordance with the relevant safety data sheet for each chemical.<br>▪ Vehicle and equipment operators would be trained in processes and procedures such as safe and stable operation of machinery and emergency response.<br>▪ Licenced contractors would be used to recover, collect, store, handle and dispose of hazardous wastes and materials utilised at the Project.<br>▪ Regular inspections of hazardous material storage areas including tanks and bunds would be conducted to maintain structural integrity.<br>▪ Spill control kits would be available at all locations in which hazardous materials are stored.<br>▪ Whitehaven WS would continue to liaise with community stakeholders including the relevant community emergency services.<br>▪ The explosives magazine for the Project would be fenced, signed and maintained in accordance with AS 2187:1998 *Explosives - Storage, transport and use Storage*.<br>▪ Ongoing consultation with relevant emergency authorities over the life of the Project (e.g. the Local Disaster Management Group). |
| | Whitehaven WS would prepare an Emergency Response Procedure in consultation with emergency services. The Emergency Response Procedure would describe the actions that would be implemented if the following incidents were to occur:<br>▪ injury or illness;<br>▪ fire;<br>▪ unintended initiation of explosives;<br>▪ loss of containment of hazardous substances;<br>▪ natural events (e.g. flooding, bushfire, cyclone);<br>▪ vehicle accident; and<br>▪ unapproved mine-affected water discharge off-site. |

**Table 7-2 (Continued)**
**Summary of Key Project Commitments made by Whitehaven WS Throughout the EIS**

| Project Matter | Commitment |
|---|---|
| Safety (Continued) | The Emergency Response Procedure may include, but not be limited to:<br>▪ contact details for key stakeholders in case of any emergency;<br>▪ emergency and evacuation planning, maps and response procedures;<br>▪ a description of the proposed communication mechanisms and required infrastructure;<br>▪ treatment plans for injured workers due to chemical processes used on site, including proposed consultation;<br>▪ a description of notification requirements for planned exercises; and<br>▪ a fatigue management policy. |
| | Whitehaven WS would perform a risk assessment specific to hazardous chemicals stored on-site during the detailed design phase of the Project, in accordance with relevant standards and codes. |
| Biosecurity | Whitehaven WS would implement mitigation and management measures to minimise the spread of weeds, pest animals and control existing weeds and pests through an Environmental Management Plan.<br>Control measures would be implemented at commencement of the Project and continue through to relinquishment of the Project area. |
| | Whitehaven WS would ensure that all personnel tasked with feral animal and weed management and control hold current and valid permits, including chemical licences for pesticide use. |
| | Consistent with the general biosecurity obligations Whitehaven WS would:<br>▪ know the biosecurity risks associated with the Project activities;<br>▪ take all reasonable and practical steps to prevent or minimise each potential biosecurity risk; and<br>▪ prevent or minimise the adverse effects the risk could have and refrain from doing, or omit to do, something that might exacerbate the adverse effects, or potential adverse effects. |
| Bushfire Risk | Whitehaven WS would implement fire prevention measures during the operation of the Project to reduce the likelihood and impact of bushfires, which would include the following:<br>▪ construction and maintenance of fire breaks;<br>▪ provision and maintenance of firefighting equipment around the Project;<br>▪ provision of firefighting equipment training for staff;<br>▪ managing vegetation within the Project mining leases to maintain safe fuel loads;<br>▪ handling and disposing any chemicals used in the Project area in accordance with the relevant Safety Data Sheet;<br>▪ implementing access tracks, to be used by Queensland Fire and Rescue Service for emergency purposes; and<br>▪ implementing an Emergency Response Procedure prepared in consultation with emergency services. |

## 7.4 PROPOSED ENVIRONMENTAL AUTHORITY CONDITIONS

This section presents the proposed environmental authority conditions for the Project.

The conditions are generally consistent with the *Guideline – Model mining conditions* (DES, 2017a), the guideline *Structures which are dams or levees constructed as part of environmentally relevant activities* (DES, 2019h), and other relevant contemporary environmental authorities in Queensland for similar activities.

### 7.4.1 Schedule A – General

**A1:** This environmental authority authorises environmental harm referred to in the conditions.

Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.

**A2:** The holder of this environmental authority is approved for an extraction rate of up to 17 Mtpa (million tonnes per annum) of ROM (run-of-mine) coal.

**A3:** In carrying out the mining activity authorised by this environmental authority, disturbance of land:

a) may occur in the areas marked 'A'; and

b) must not occur in the areas marked 'B',

in the map that is Annexure 1 to this environmental authority.

**A4:** The holder of this environmental authority must:

a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;

b) maintain such measures, plant and equipment in a proper and efficient condition;

c) operate such measures, plant and equipment in a proper and efficient manner; and

d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.

***Monitoring***

**A5:** Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five years.

***Non-sensitive Location Agreements***

**A9**: The environmental authority holder may enter into non-sensitive location agreements with the owners of sensitive places identified in the relevant management plan.

**A10**: The environmental authority holder must notify the administering authority of any non-sensitive location agreement upon commencement, amendment, transfer, continuation or conclusion of the agreement.

**A11**: Where the owner of a sensitive place enters into a non-sensitive location agreement, that place is not considered to be a sensitive place.

***Risk Management***

**A12:** The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2018), or the latest edition of an Australian Standard for risk management.

***Notification of Emergencies, Incidents and Exceptions***

**A13:** The holder of this environmental authority must notify the administering authority by written notification within 24-hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

**A14:** Within 10 business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

a) results and interpretation of any samples taken and analysed;

b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and

c) proposed actions to prevent a recurrence of the emergency or incident.

***Complaints***

**A15:** The holder of this environmental authority must record all environmental complaints received about the mining activities including:

a) name, address and contact number of the complainant;

b) time and date of complaint;

c) reasons for the complaint;

d) investigations undertaken;

e) conclusions formed;

f) actions taken to resolve the complaint;

g) any abatement measures implemented; and

h) the person responsible for resolving the complaint.

**A16:** The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

***Third-party Reporting***

**A17:** The holder of this environmental authority must:

a) within one year of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority;

b) obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above; and

c) provide each report to the administering authority within 90 days of its completion.

**A18:** Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must:

a) comply with the amended or changed standard, policy or guideline within two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in Condition I29 the time specified in that condition; and

b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

### 7.4.2 Schedule B – Air

***Dust Nuisance***

**B1:** The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:

1. Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of AS3580.10.1 *Methods for sampling and analysis of ambient air - Determination of particulate matter - Deposited matter - Gravimetric method.*

2. A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres ($PM_{10}$) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time[1], for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either:

    a) AS3580.9.6 *Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—$PM_{10}$ high volume sampler with size-selective inlet – Gravimetric method*; or

    b) AS3580.9.9 *Methods for sampling and analysis of ambient air— Determination of suspended particulate matter—$PM_{10}$ low volume sampler—Gravimetric method.*

3. A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres ($PM_{2.5}$) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.10 *Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—$PM_{2.5}$ low volume sampler—Gravimetric method*.

4. A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a one year averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.3:2003 *Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method*.

**B2**: When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring (including dust deposition, total suspended particulates [TSP], $PM_{10}$ and $PM_{2.5}$) must be undertaken, and the results thereof must be notified to the administering authority within 14 days following completion of monitoring. This includes providing interim reports if the monitoring lasts for more than one month.

[1] Note: Any exceedance of 50 µg/m$^3$ (24-hour average) is not considered a breach of this condition if the holder of this EA demonstrates that it is caused by natural events such as bushfires and dust storms.

Monitoring must be carried out at a place(s) relevant to the potentially affected dust sensitive place. Monitoring must be conducted in accordance with the appropriate standards.

**B3**: If the monitoring which is carried out in accordance with Condition B2 indicates an exceedance of the relevant limits in Condition B1, then the holder of this environmental authority must investigate whether the exceedance is due to emissions from the mining activity.

If the mining activity is found to be the cause of the exceedance then the holder of this environmental authority must:

1. address the complaint including the use of appropriate dispute resolution if required; and
2. immediately implement dust abatement measures so that emissions of dust from the mining activity do not result in further environmental nuisance.

**B4:** The holder of this environmental authority must notify the administering authority within seven days of an exceedance identified under Condition B3 and in accordance with the relevant limits in Condition B1.

***Air Quality Management Plan***

**B5:** An Air Quality Management Plan must be developed and implemented by an appropriately qualified person. The Air Quality Management Plan must be submitted to the administering authority.

**B6:** The Air Quality Management Plan required by Condition B5 must include:

1. a preventative management system for dust control;
2. a Trigger Action Response Program;
3. site background (contextual information);
4. proposed works and potential impacts and impact analysis;
5. a risk assessment of mining activities;
6. design of an internal operational monitoring program including objectives, separate from any compliance monitoring or limits/levels required by Condition B2;

7. performance criteria and monitoring methods;
8. number and location of monitoring sites;
9. quality assurance/quality control (QA/QC) requirements;
10. stakeholder consultation;
11. roles and responsibilities; and
12. reporting.

**B7:** The holder of this environmental authority must monitor air quality for the mining activity, which must include, but not be limited to:

1. meteorological monitoring (including at least temperature, wind speed and direction) at a single location representative of the approved place;
2. the monitoring locations must comply with the AS/NZS 3580.1.1:2016 *Methods for siting and analysis of ambient air. Part 1.1: Guide to siting air monitoring equipment*;
3. regular reporting of the measured dust deposition rates and $PM_{10}$ concentrations; and
4. investigation of all measured exceedances to determine the influence of emissions from the mining site.

**B8:** To ensure that the air quality monitoring program remains effective and well-targeted through the life of the Project, the monitoring locations must be reviewed periodically. The periodic review should consider:

1. the frequency and cause of any exceedances of air quality objectives measured by the monitoring program over a period of at least two years;
2. dust complaints;
3. future progression of the mining activity;
4. locations of sensitive receptors relative to the mining activity; and
5. mining activity modes.

### 7.4.3 Schedule C – Waste Management

**C1:** General waste must only be disposed of into the waste disposal trench facility of <insert tenement number> and identified in Schedule # Figure # – Site Map.

**C2:** Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.

**C3:** The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the mining activity does not cause environmental harm at any sensitive place or commercial place.

#### *Tailings Disposal*

**C4:** If produced, tailings must be managed in accordance with established procedures. These procedures must include provisions for:

a) containment of tailings;
b) the management of seepage and leachates both during operations and the foreseeable future;
c) the control of fugitive emissions to air;
d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings;
e) maintaining records of the relative locations of any other waste stored within the tailings;
f) rehabilitation strategy; and
g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.

#### *Storage of Tyres*

**C5:** Tyres must be stored and disposed of in accordance with the *Operational Policy – Disposal and storage of scrap tyres at mine sites* (DES, 2014), or the most recent revision available.

### 7.4.4 Schedule D – Noise

#### *Noise Limits*

**D1:** Noise resulting from the mining activity must not cause an environmental nuisance at any sensitive or commercial place.

### *Monitoring and Reporting*

**D2:** When requested by the administering authority as a result of a complaint regarding noise at a noise sensitive place (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the administering authority) noise monitoring must be undertaken and the results must be notified within 14 days to the administering authority following completion of monitoring.

Monitoring must be carried out at a place(s) relevant to the potentially affected noise sensitive place as agreed upon with the administering authority.

**D3:** All noise monitoring which is conducted as per Condition D2 must be completed in accordance with the following noise monitoring requirements:

1. all noise monitoring must be conducted in accordance with the administering authority's most recent version of the Noise Measurement Manual;
2. source noise levels must be expressed as component noise levels for the purposes of comparison with noise limits; and
3. all noise monitoring devices must be calibrated in accordance with AS/NZS IEC 61672.1-2019 *Electroacoustics – Sound level meters specifications*.

**D4:** If monitoring conducted under Condition D2 reveals that noise caused by the mining activity exceeds the limits in **Table D1 – Noise Limits**, then the holder of this environmental authority must:

1. address the relevant complaint including the use of appropriate dispute resolution if required; and
2. implement noise abatement measures so that emissions of noise from the mining activity do not result in further environmental nuisance.

### *Airblast Overpressure Nuisance*

**D5:** The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in **Table D2 – Blasting Noise Limits** to be exceeded at a sensitive place or commercial place.

**D6:** The holder of this environmental authority must develop and implement a blast monitoring program to monitor compliance with **Table D2 – Blasting Noise Limits** for:

1. at least 20% of all blasts undertaken on this site in each year at the nearest sensitive place; and
2. all blasts conducted during any time period specified by the administering authority at the nearest sensitive place or commercial place.

**Table D1**
**Noise Limits**

| Noise Level dB(A) Measured As: | Noise Measured at a Sensitive or Commercial Place | | | | | |
|---|---|---|---|---|---|---|
| | Monday to Saturday | | | Sundays and Public Holidays | | |
| | 7.00 am to 6.00 pm | 6.00 pm to 10.00 pm | 10.00 pm to 7.00 am | 9.00 am to 6.00 pm | 6.00 pm to 10.00 pm | 10.00 pm to 9.00 am |
| $L_{Aeq,\ adj,\ 15\ mins}$ | 40 | 35 | 35 | 40 | 35 | 35 |
| $L_{A1,\ adj,\ 15\ mins}$ | 40 | 40 | 40 | 40 | 40 | 40 |

**Table D2**
**Blasting Noise Limits**

| Blasting Noise Limits | Sensitive or Commercial Place Limits | |
|---|---|---|
| | 7.00 am to 6.00 pm | 6.00 pm to 7.00 am |
| Airblast overpressure | 115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time | No blasting is allowed during these times |
| Ground vibration peak particle velocity | 5 mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time | No blasting is allowed during these times |

### 7.4.5 Schedule E – Groundwater

**E1:** The holder of this environmental authority must not release contaminants to groundwater.

***Monitoring and Reporting***

**E2:** Groundwater monitoring and analysis must be performed by an appropriately qualified person.

**E3:** The holder of this authority must develop and implement a groundwater monitoring program.

**E4:** The groundwater monitoring program must:

1. be in accordance with **Table E1 – Groundwater Monitoring Locations and Frequency**;
2. identify potential sources of contamination to groundwater from the mining activity;
3. identify potential groundwater impacts due to the mining activity;
4. document a sampling, monitoring and data analysis methodology designed to achieve the following objectives:
    a) establish baseline datasets from existing monitoring bores;
    b) detect any impacts to groundwater levels due to the mining activity;
    c) detect any impacts to groundwater quality due to the mining activity;
    d) determine trends in groundwater quality; and
    e) determine trends in groundwater level;
5. include an appropriate quality assurance and quality control program;
6. include a conceptual numerical groundwater model; and
7. include a review process to improve the program.

***Groundwater Quality***

**E5:** Groundwater quality must be monitored at the locations and frequencies to be defined in **Table E1 - Groundwater Monitoring Locations and Frequency**, for quality characteristics identified in **Table E2 - Groundwater Quality Triggers and Limits**.

**E6:** Groundwater quality measured at monitoring bores identified in **Table E1 – Groundwater Monitoring Locations and Frequency** must not exceed the limits specified in **Table E2 – Groundwater Quality Triggers and Limits** on any five consecutive sampling occasions.

**E7:** In the event groundwater quality measured at any monitoring bore exceeds the corresponding limits in **Table E2 – Groundwater Quality Triggers and Limits** on any single sampling occasion, the environmental authority holder must resample the underground water within the monitoring bore for the parameter exceeded, within 10 business days of receipt of the results. Whether the results of the resampling event exceeds for the same parameter or not, a further resample is not required for that sampling occasion.

**E8:** In the event that groundwater quality exceedance results are confirmed by resampling, as specified in Condition E7, the holder of this environmental authority must:

1. notify the administering authority via Water Tracking and Reporting System (WaTERS) or subsequent updated system within 14 days of receiving the resampling result; and
2. within three months of receiving the result, complete, and submit via WaTERS, an investigation undertaken by a suitably qualified person outlining:
    a) details of the investigations carried out;
    b) whether the result is directly associated with mining activities, and, if so;
    c) whether environmental harm has occurred; and
    d) any action required to mitigate environmental harm.

***Groundwater Levels***

**E9:** Groundwater levels when measured at the monitoring locations and frequency specified in **Table E3 – Groundwater Level Monitoring** must not exceed the groundwater level trigger thresholds specified in **Table E3 – Groundwater Level Monitoring**, unless otherwise agreed in writing with the administering authority.

**Table E1**
**Groundwater Monitoring Locations and Frequency**

| Monitoring Point | Location | | Elevation (mAHD) | Monitoring Frequency |
|---|---|---|---|---|
| | Easting | Northing | | |
| **Existing Monitoring Bores** | | | | |
| C2105R | 634650 | 7541857 | 209.09 | Q |
| C2136 | 631742 | 7547243 | 199.39 | Q |
| G2304R | 633245 | 7543171 | 216.24 | Q |
| G2307 | 630881 | 7547844 | 194.42 | Q |
| R2008 | 630879 | 7542573 | 220.32 | Q |
| R2009R | 631332 | 7542812 | 220.24 | Q |
| R2010R | 631730 | 7543070 | 216.67 | Q |
| R2032 | 630495 | 7545853 | 205.31 | Q |
| R2034R | 629598 | 7545346 | 221.60 | Q |
| R2035 | 629190 | 7545103 | 223.54 | Q |
| R2054 | 629240 | 7548107 | 203.60 | Q |
| R2055 | 628798 | 7547863 | 207.46 | Q |
| Knob Hill 1‡ | 631005 | 7553874 | 191# | Q |
| Knob Hill 2‡ | 630431 | 7554061 | 193# | Q |
| Winnet Bore | 634791 | 7550023 | 187# | Q |

Note: Monitoring is not required where a bore has been removed as a direct result of the mining activity.

Q = Quarterly monitoring frequency.

‡ Privately-owned bore, inclusion in monitoring network dependent on continued approval to access the bore from bore owner.

**Table E2**
**Groundwater Quality Triggers and Limits**

| Parameter | Contaminant Triggers | Contaminant Limit |
|---|---|---|
| TBA | TBA | TBA |

**E10:** In the event that groundwater fluctuations in excess of the groundwater level trigger thresholds specified in **Table E3 – Groundwater Level Monitoring** are detected, the holder of this environmental authority must:

1. notify the administering authority via WaTERS within 24-hours; and
2. undertake an investigation within 14 days of detection to determine the cause of fluctuations.

**E11:** In the event that groundwater fluctuations are found to have been influenced by mining activities the holder of this environmental authority must meet the notification requirement of Condition A13 of this environmental authority.

**E12:** The exceedance investigation under Condition E10 must be completed and submitted to the administering authority via WaTERS within three months of notifying the administering authority.

**E13:** The baseline datasets, as referred to in Condition E4 of this environmental authority, are to consist of at least eight values collected over a minimum of at least 12 months prior to commencement of mining activities.

**E14:** Results of groundwater quality and level monitoring must be submitted to the administering authority via WaTERS each calendar year.

**E15:** The groundwater monitoring program must be reviewed on an annual basis by an appropriately qualified person to determine if it continues to meet the requirements stated in Condition E4.

**Table E3**
**Groundwater Level Monitoring**

| Monitoring Point | Location | | Level Trigger Threshold |
|---|---|---|---|
| | Easting | Northing | |
| C2105R | 634650 | 7541857 | TBA |
| C2136 | 631742 | 7547243 | TBA |
| G2304R | 633245 | 7543171 | TBA |
| G2307 | 630881 | 7547844 | TBA |
| R2008 | 630879 | 7542573 | TBA |
| R2009R | 631332 | 7542812 | TBA |
| R2010R | 631730 | 7543070 | TBA |
| R2032 | 630495 | 7545853 | TBA |
| R2034R | 629598 | 7545346 | TBA |
| R2035 | 629190 | 7545103 | TBA |
| R2054 | 629240 | 7548107 | TBA |
| R2055 | 628798 | 7547863 | TBA |
| Knob Hill 1‡ | 631005 | 7553874 | TBA |
| Knob Hill 2‡ | 630431 | 7554061 | TBA |
| Winnet Bore | 634791 | 7550023 | TBA |
| VWP1 | 632312 | 7549767 | TBA |
| VWP2 | 635711 | 7546357 | TBA |

Note: Monitoring is not required where a bore has been removed as a direct result of the mining activity.

‡ Privately-owned bore, inclusion in monitoring network dependent on continued approval to access the bore from bore owner.

**E16:** The groundwater numerical model must be reviewed and validated (including boundary and recharge conditions) to incorporate groundwater monitoring data and measured mine dewatering volumes from the groundwater monitoring program in Condition E4. The review must be conducted within two years of commencement of any mining operations and at least every five years thereafter, or at other intervals specified by the administering authority in writing.

**E17:** The construction, maintenance, management and decommissioning of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate and reliable data collection.

**E18:** Where the removal of a bore will occur as a direct result of the mining activity, the impact on the monitoring program must be evaluated and a replacement bore constructed prior to its removal, for continuity and to ensure that groundwater monitoring continues to meet the requirements in Condition E4.

***Exceedance Investigation***

**E19:** If quality characteristics of groundwater from compliance bores identified in **Table E1 – Groundwater Monitoring Locations and Frequency** exceed any of the trigger levels stated in **Table E2 – Groundwater Quality Triggers and Limits** or exceed any of the groundwater level trigger threshold stated in **Table E3 – Groundwater Level Monitoring**, the holder of this environmental authority must compare the compliance monitoring bore results to the reference bore results and complete an investigation in accordance with ANZECC & ARMCANZ (2000).

**E20:** Results of monitoring of groundwater from compliance bores identified in **Table E1 – Groundwater Monitoring Locations and Frequency**, must not exceed any of the limits defined in **Table E2 – Groundwater Quality Triggers and Limits**.

***Bore Construction and Maintenance and Decommissioning***

**E21:** The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

### 7.4.6 Schedule F – Water

**F1:** Contaminants that will, or have the potential to, cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.

**F2:** Unless otherwise permitted under the conditions of this environmental authority, the controlled release of mine-affected water to waters must only occur from the release points to be specified in **Table F1 – Mine-affected Water Release Points, Sources and Receiving Waters**.

**F3:** The controlled release of mine-affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with Condition F27 is permitted.

**F4:** The controlled release of mine-affected water to waters in accordance with Condition F2 must not exceed the release limits stated in **Table F2 – Mine-affected Water Release Limits** when measured at the monitoring points specified in **Table F1 – Mine-affected Water Release Points, Sources and Receiving Waters** for each quality characteristic.

**F5:** The controlled release of mine-affected water to waters from the release points must be monitored at the locations specified in **Table F1 – Mine-affected Water Release Points, Sources and Receiving Waters** for each quality characteristic and at the frequency specified in **Table F2 – Mine-affected Water Release Limits** and **Table F3 – Release Contaminant Trigger Investigation Levels, Potential Contaminants**.

**F6:** If quality characteristics of the release exceed any of the trigger levels specified in **Table F3 – Release Contaminant Trigger Investigation Levels, Potential Contaminants** during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in **Table F3 – Release Contaminant Trigger Investigation Levels, Potential Contaminants** and:

a) where the trigger values are not exceeded then no action is to be taken; or

b) where the downstream results exceed the trigger values specified **Table F3 – Release Contaminant Trigger Investigation Levels, Potential Contaminants** for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and:

   1. if the result is less than the background monitoring site data, then no action is to be taken; or

   2. if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 90 days of receiving the result, outlining:

      (i) details of the investigations carried out; and

      (ii) actions taken to prevent environmental harm.

Note, where an exceedance of a trigger level has occurred and is being investigated, in accordance with Condition F6(b)(2), no further reporting is required for subsequent trigger events for that quality characteristic.

**F7:** If an exceedance in accordance with Condition F6(b)(2) is identified, the holder of the environmental authority must notify the administering authority in writing within 24 hours of receiving the result.

**Table F1**
**Mine-affected Water Release Points, Sources and Receiving Waters**

| Release Point | Easting (GDA94 – Zone 55) | Northing (GDA94 – Zone 55) | Mine-affected Water Source and Location | Monitoring Point | Receiving Waters Description |
|---|---|---|---|---|---|
| TBA | TBA | TBA | TBA | TBA | TBA |

**Table F2**
**Mine-affected Water Release Limits**

| Quality Characteristic | Release Limits | Monitoring Frequency | Comment |
|---|---|---|---|
| Electrical Conductivity (µS/cm) | TBA | TBA | TBA |
| pH (pH Unit) | TBA | TBA | TBA |
| Turbidity (NTU) | TBA | TBA | TBA |

**Table F3**
**Release Contaminant Trigger Investigation Levels, Potential Contaminants**

| Quality Characteristic | Trigger Levels (µg/L) | Comment on Trigger Level | Monitoring Frequency |
|---|---|---|---|
| Aluminium | 55 | TBA | Commencement of release and thereafter weekly during releases |
| Arsenic (Total) | 13 | TBA | |
| Cadmium (Total) | 0.2 | TBA | |
| Chromium | 1 | TBA | |
| Copper | 1.2 | TBA | |
| Iron | 180 | TBA | |
| Lead | 4 | TBA | |
| Mercury | 0.2 | TBA | |
| Nickel | 11 | TBA | |
| Zinc | 8 | TBA | |
| Boron | 830 | TBA | |
| Cobalt | 90 | TBA | |
| Manganese | 1,900 | TBA | |
| Molybdenum | 34 | TBA | |
| Selenium | 10 | TBA | |
| Silver | 0.5 | TBA | |
| Uranium | 1 | TBA | |
| Vanadium | 10 | TBA | |
| Ammonia | 20 | TBA | |
| Nitrate | 1,100 | TBA | |
| Petroleum Hydrocarbons ($C_6 – C_9$) | 20 | TBA | |
| Petroleum Hydrocarbons ($C_{10} – C_{36}$) | 100 | TBA | |
| Fluoride (Total) | 2,000 | TBA | TBA |
| Sodium | TBA | TBA | |
| Suspended Solids | TBA | TBA | |
| Sulphate ($SO_4^{2-}$) (mg/L) | TBA | TBA | |

### *Mine-affected Water Release Events*

**F8:** The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in **Table F4 – Mine-affected Water Release During Flow Events**.

**F9:** Notwithstanding any other condition of this environmental authority, the release of mine-affected water to waters in accordance with Condition F2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in **Table F4 – Mine-affected Water Release During Flow Events** for the release point(s) specified in **Table F1 – Mine-affected Water Release Points, Sources and Receiving Waters**.

**F10:** The release of mine-affected water to waters in accordance with Condition F2 must not exceed the Maximum Release Rate (for all combined release point flows) for each receiving water flow criterion for discharge specified in **Table F4 – Mine-affected Water Release During Flow Events** when measured at the monitoring points specified in **Table F1 – Mine-affected Water Release Points, Sources and Receiving Waters**.

**F11:** The daily quantity of mine-affected water released from each release point must be measured and recorded.

**F12:** Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.

### *Notification of Release Event*

**F13:** The environmental authority holder must notify the administering authority as soon as practicable and no later than 24-hours after commencing to release mine-affected water to the receiving environment.

Notification must include the submission of written advice to the administering authority of the following information:

a) release commencement date/time;

b) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contaminant limits, natural flow, discharge volume);

c) release point/s;

d) release rate;

e) release salinity; and

f) receiving water/s including the natural flow rate.

Note, notification to the administering authority must be addressed to the Manager and Project Manager of the local Administrating Authority via email or facsimile.

**F14:** The environmental authority holder must notify the administering authority as soon as practicable and nominally no later than 24-hours after cessation of a release event notified under Condition F13 and within 28 days provide the following information in writing:

a) release cessation date/time;

b) natural flow rate in receiving water;

c) volume of water released;

d) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contaminant limits, natural flow, discharge volume);

e) all *in-situ* water quality monitoring results; and

f) any other matters pertinent to the water release event.

Note, successive or intermittent releases occurring within 24-hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with Conditions F13 and F14.

### *Notification of Release Event Exceedance*

**F15:** If the release limits defined in **Table F2 – Mine-affected Water Release Limits** are exceeded, the holder of the environmental authority must notify the administering authority within 24-hours of receiving the results.

**F16:** The environmental authority holder must, within 28 days of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority detailing:

a) the reason for the release;

b) the location of the release;

c) the total volume of the release and which (if any) part of this volume was non-compliant;

**Table F4**
**Mine-affected Water Release During Flow Events**

| Receiving Water/Stream | Release Point (RP) | Gauging Station | Gauging Station Latitude (GDA94) | Gauging Station Longitude (GDA94) | Receiving Water Flow Recording Frequency | Receiving Water Flow Criteria for Discharge ($m^3/s$) | Maximum Release Rate (for all combined RPs) | Electrical Conductivity and $SO_4$ Release Limits |
|---|---|---|---|---|---|---|---|---|
| Isaac River | **MWD** (RP1)<br>**CC Dam** (RP2)<br>**Railway Pit** (RP3) | 130410A<br>Isaac River<br>@ Deverill | 22.164296°S | 148.350830°E | TBA | **Medium Flow** | | |
| | | | | | | 4 $m^3/s$ | 0.5 $m^3/s$ | 1,000 µs/cm<br>300 mg/L $SO_4^{2-}$ |
| | | | | | | 10 $m^3/s$ | 1.0 $m^3/s$ | 1,200 µs/cm<br>300 mg/L $SO_4^{2-}$ |
| | | | | | | **High Flow** | | |
| | | | | | | 50 $m^3/s$ | 2.0 $m^3/s$ | 4,000 µs/cm<br>400 mg/L $SO_4^{2-}$ |
| | | | | | | 100 $m^3/s$ | 3.0 $m^3/s$ | 6,000 µs/cm<br>400 mg/L $SO_4^{2-}$ |
| | | | | | | **Very High Flow** | | |
| | | | | | | 300 $m^3/s$ | 5.0 $m^3/s$ | 10,000 µs/cm<br>400 mg/L $SO_4^{2-}$ |

d) the total duration of the release and which (if any) part of this period was non-compliant;

e) all water quality monitoring results (including all laboratory analyses);

f) identification of any environmental harm as a result of the non-compliance;

g) all calculations; and

h) any other matters pertinent to the water release event.

***Receiving Environment Monitoring and Contaminant Trigger Levels***

**F17:** The quality of the receiving waters must be monitored at the monitoring points specified in **Table F5 – Receiving Water Background Sites and Monitoring Points** for each quality characteristic and at the monitoring frequency stated in **Table F6 – Receiving Waters Contaminant Trigger Levels**.

**F18:** If quality characteristics of the receiving water at the downstream or upstream monitoring points exceed any of the trigger levels specified in **Table F6 – Receiving Waters Contaminant Trigger Levels** during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:

a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic, then no action is to be taken; or

b) where the downstream results exceed the upstream results, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:

    1. details of the investigations carried out; and

    2. actions taken to prevent environmental harm.

Note, where an exceedance of a trigger level has occurred and is being investigated, in accordance with Condition F18(b), no further reporting is required for subsequent trigger events for that quality characteristic.

**F19:** All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.

***Receiving Environment Monitoring Program***

**F20:** The environmental authority holder must develop and implement a REMP (Receiving Environment Monitoring Program) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine-affected water is being discharged from the site. For the purposes of the REMP, the receiving environment is the waters of the Isaac River and connected or surrounding waterways within XX km downstream of the release.

The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine-affected water.

**F21:** The REMP must:

1. assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality);

2. describe applicable environmental values and water quality objectives (i.e. as scheduled pursuant to the Water and Wetland EPP [*Environmental Protection (Water and Wetland Biodiversity) Policy 2019*]);

3. be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected;

4. include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in **Table F5 – Receiving Water Background Sites and Monitoring Points**);

5. specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Guideline – Environmental Protection (Water) Policy 2009*. This should include monitoring during periods of natural flow irrespective of mine or other discharges;

**Table F5**
**Receiving Water Background Sites and Monitoring Points**

| Monitoring Points | Receiving Waters Location Description | Easting (GDA94 – Zone 55) | Northing (GDA94 – Zone 55) |
|---|---|---|---|
| **Background Sites** | | | |
| SW2 | Unnamed tributary of Isaac River | 635,908 | 7,549,015 |
| SW3 | Unnamed tributary of Isaac River | 631,065 | 7,552,777 |
| SW7 | Ripstone Creek | 626,052 | 7,542,660 |
| SW8 | Isaac River | 640,300 | 7,547,829 |
| SW9 | Ripstone Creek | 636,357 | 7,537,931 |
| **Upstream Monitoring Point** | | | |
| SW4 | Isaac River | 630,897 | 7,553,963 |
| **Downstream Monitoring Point** | | | |
| SW5 | Isaac River – downstream of RP1, RP2 and RP3 | 636,999 | 7,549,588 |

**Table F6**
**Receiving Waters Contaminant Trigger Levels**

| Quality Characteristic | Trigger Level | Monitoring Frequency |
|---|---|---|
| pH (pH units) | 6.5 – 9.0 | Daily during the release |
| Electrical Conductivity (µS/cm) | Variable[1] | |
| Sulphate ($SO_4^{2-}$) (mg/L) | Variable[1] | |

[1] Release limits for EC and $SO_4^{2-}$ would be dependent on receiving water flow.

6. include monitoring and assessment of all water quality parameters listed in **Table F2 – Mine-affected Water Release Limits** and **Table F3 – Release Contaminant Trigger Investigation Levels, Potential Contaminants**;
7. include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ (2000), BATLEY and/or the most recent version of AS5667.1 *Guidance on Sampling of Bottom Sediments*) and include a comparison with trigger values determined in accordance with these methods;
8. include, where appropriate, monitoring of macroinvertebrates in accordance with the AUSRiVAS methodology and comparison with the *Environmental Protection (Water) Policy 2009 Fitzroy River Sub-basin Environmental Values and Water Quality Objectives Basin No. 130 (part) including all waters of the Fitzroy River Sub-basin* macroinvertebrate water quality objective triggers (including taxa richness, PET taxa richness, SIGNAL index and % tolerant taxa);
9. apply procedures and/or guidelines from ANZECC & ARMCANZ (2000) and other relevant guideline documents;
10. describe sampling and analysis methods and quality assurance and control; and
11. incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

**F22:** A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the administering authority upon request.

**F23:** A report outlining the findings of the REMP (required under Conditions F20 and F21), including all monitoring results and interpretations must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.

***Water Reuse***

**F24:** Mine-affected water and raw water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as water storages, farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).

***Annual Water Monitoring Reporting***

**F25:** The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format:

a) the date on which the sample was taken;

b) the time at which the sample was taken;

c) the monitoring point at which the sample was taken;

d) the measured or estimated daily quantity of mine-affected water released from all release points;

e) the release flow rate at the time of sampling for each release point;

f) the results of all monitoring and details of any exceedances of the conditions of this environmental authority; and

g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

***Temporary Interference with Waterways***

**F26:** Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with DRDMW (or its successor) *Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities.*

***Water Management Plan***

**F27:** A Water Management Plan must be developed by an appropriately qualified person and implemented prior to the commencement of coal extraction.

**F28:** The Water Management Plan must:

1. provide for effective water management of actual and potential environmental impacts resulting from water management associated with the mining activities carried out under this environmental authority; and
2. be developed in accordance with the administering authority's most recent version of the guideline for *Preparation of water management plans for mining activities* (EM324) or any updates that become available from time to time and must include at least the following components:
    a) study of the source on contaminants;
    b) a water balance model for the site;
    c) details of catchment areas and environmental values;
    d) a water management system for the site;
    e) details of locations and design standards of water management infrastructure;
    f) measures to manage and prevent saline drainage;
    g) measures to manage and prevent acid rock drainage;
    h) contingency procedures for incidents and emergencies; and
    i) a program for monitoring and review of the effectiveness of the water management plan.

**F29:** A written review of the Water Management Plan must be undertaken each calendar year. The review must:

1. include a statement that the Water Management Plan has been prepared by an appropriately qualified person;
2. assess the plan against the requirements under Condition F28;
3. include recommended actions to ensure actual and potential environmental impacts are effectively managed;
4. provide details and timelines of the actions to be taken; and
5. identify any amendments made to the Water Management Plan.

**F30:** A copy of the Water Management Plan must be provided to the administering authority on request.

***Stormwater and Water Sediment Controls***

**F31:** An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented prior to the commencement of mining activities, to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

**F32:** The Erosion and Sediment Control Plan must:

1. demonstrate how erosion and sediment control measures adequately minimise the release of sediment to receiving waters and must include at least the following:
    a) assessment of all catchment areas;
    b) assessment of soil types, including sodic dispersive soils; and
    c) specify design criteria for erosion and sediment control structures;
2. detail the locations and descriptions of all erosion and sediment control measures; and
3. provide an audit schedule to ensure erosion and sediment controls are being maintained.

**F33:** A written review of the Erosion and Sediment Control Plan must be undertaken each calendar year. The review must:

1. include a statement that the Erosion and Sediment Control Plan has been prepared by an appropriately qualified person;
2. assess the plan against the requirements under Condition F32;
3. include recommended actions to ensure actual and potential environmental impacts are effectively managed;
4. provide details and timelines of the actions to be taken; and
5. identify any amendments made to the Erosion and Sediment Control Plan.

**F34**: A copy of the erosion and sediment control plan must be provided to the administering authority on request.

**F35:** Water and sediments, other than mine-affected water, is permitted to be released to waters from:

a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by Conditions F31 and F32; and

b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with Conditions F27 and F28, for the purpose of ensuring water does not become mine-affected water.

### 7.4.7 Schedule G – Sewage Treatment

**G1:** The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in **Table G1 – Contaminant Release Limits to Land**.

**G2:** Treated sewage effluent may only be released to land in accordance with the conditions of this approval at the following locations:

a) within the nominated area(s) identified in Schedule ## - Figure ## (sewage treatment plant and effluent disposal); and

b) other land for the purpose of dust suppression and/or firefighting.

**G3:** The application of treated effluent to land must be carried out in a manner such that:

a) vegetation is not damaged;

b) there is no surface ponding of effluent; and

c) there is no run-off of effluent.

**G4:** If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is present and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.

**G5:** All sewage effluent released to land must be monitored at the frequency and for the parameters specified in **Table G1 – Contaminant Release Limits to Land**.

**Table G1**
**Contaminant Release Limits to Land**

| Contaminant | Unit | Release Limit | Limit Type | Frequency |
|---|---|---|---|---|
| 5 day Biochemical Oxygen Demand (BOD) | mg/L | 20 | Maximum | Monthly |
| Total Suspended Solids | mg/L | 30 | Maximum | Monthly |
| Nitrogen | mg/L | 30 | Maximum | Monthly |
| Phosphorus | mg/L | 15 | Maximum | Monthly |
| E-coli | Organisms/100 ml | 1,000 | Maximum | Monthly |
| pH | pH units | 6.0 – 9.0 | Range | Monthly |

**G6:** The daily volume of effluent released to land must be measured and records kept of the volumes of effluent released.

**G7:** When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.

**G8:** A minimum area of <<insert area>> of land, excluding any necessary buffer zones, must be utilised for the irrigation and/or beneficial reuse of treated sewage effluent.

**G9:** Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the EP Act whilst using the treated sewage effluent.

### 7.4.8 Schedule H – Land and Rehabilitation

**H1:** Land disturbed by mining must be rehabilitated in accordance with **Table H1 – Rehabilitation Requirements – Land Outcome (Grazing PMLU)** and **Table H2 – Rehabilitation Requirements – Land Outcome (NUMA)** and <<insert reference to figure showing the area and location of PMLUs and NUMAs>>.

Note**,** upon receipt of a notice given under section 754 of the EP Act, a PRC Plan (Progressive Rehabilitation and Closure Plan) and schedule would be developed for the Project in accordance with the requirements for 'mining EA applicants' under the EP Act and consistent with the land outcomes provided in **Table H1 – Rehabilitation Requirements – Land Outcome (Grazing PMLU)** and **Table H2 – Rehabilitation Requirements – Land Outcome (NUMA)**.

**H2:** Rehabilitation must commence progressively in accordance with the approved PRC Plan.

***Contaminated Land***

**H3:** Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the EP Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.

**H4:** Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the EP Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under Condition H1.

**Table H1**
**Rehabilitation Requirements - Land Outcome (Grazing PMLU)**

| Rehabilitation Area | Rehabilitation Goal | Rehabilitation Objective | Performance Indicator | Completion Criteria |
|---|---|---|---|---|
| Infrastructure Areas | Safe | Potential safety risks (e.g. risks associated with retained infrastructure) are identified and appropriately addressed so the site is safe. | Safety assessment (including risk assessment) prepared by a suitably qualified person.<br>The safety assessment forms a part of the Project Post-mining Management Report. | The safety assessment concludes that the rehabilitated infrastructure areas and any retained infrastructure do not pose a safety risk. |
| | Stable | Landform water management features functioning as designed and minimal presences of erosion. | Erosion monitoring data (erosion rates and sheets, rills and gully formation).<br>Erosion monitoring data forms a part of the Project Post-mining Management Report. | Erosion monitoring data demonstrates the following for two years post-rehabilitation:<br>▪ Limited erosion (i.e. presence of sheet, rill and gully erosion) observed.<br>▪ Soil loss rates are comparable to relevant rehabilitation reference monitoring sites.<br>▪ Erosion maintenance requirements are comparable to relevant rehabilitation reference monitoring sites. |
| | | | Surface water quality monitoring data (e.g. pH, EC, heavy metal content, etc.).<br>Surface water quality monitoring data forms a part of the Project Post-mining Management Report. | Receiving water quality monitoring results comply with environmental authority surface water quality criteria, for a period of at least two years post-rehabilitation. |
| | Non-polluting | Potentially contaminated areas are remediated and are safe. | Contaminated land assessment prepared in accordance with the *Queensland auditor handbook for contaminated land* (DES, 2018c) by a suitably qualified person.<br>The contaminated land assessment forms a part of the Project Post-mining Management Report. | No contaminated land exists within the Project final landform. |

**Table H1 (Continued)**
**Rehabilitation Requirements - Land Outcome (Grazing PMLU)**

| Rehabilitation Area | Rehabilitation Goal | Rehabilitation Objective | Performance Indicator | Completion Criteria |
|---|---|---|---|---|
| Infrastructure Areas (Continued) | Able to sustain proposed PMLU | Establish low-intensity cattle grazing land use. | Rehabilitation monitoring (e.g. erosion, soil physical and chemical parameters, organic matter and nutrient presence, cycling and vegetation dynamics, and habitat complexity and quality for woodland patches).<br>Monitoring data forms a part of the Project Post-mining Management Report. | Rehabilitation monitoring demonstrates that:<br>▪ Physical, chemical and biological properties of the growth media are similar to relevant rehabilitation reference monitoring sites.<br>▪ Pasture vegetation comprise grass species suitable for grazing and comparable to relevant rehabilitation reference monitoring sites (e.g. Buffel Grass [*Cenchrus ciliaris*], Wiregrass [*Aristida sp*] and Kangaroo Grass [*Themeda triandra*]).<br>▪ Woodland patches comprises vegetation species diversity (and demonstrate generational succession) comparable to relevant rehabilitation reference monitoring sites, including monitoring sites within woodland patches of comparable low-intensity grazing land uses.<br>▪ Vegetation cover and densities are comparable to relevant rehabilitation monitoring reference sites for a period of at least two years post-rehabilitation.<br>▪ Weed diversity and abundance is comparable to relevant rehabilitation monitoring reference sites.<br>▪ Pests do not occur in substantial numbers (i.e. are not greater than relevant reference sites) or visibly affect the pasture and woodland vegetation development. |
| | | | Cattle stocking rate.<br>Cattle stocking rate monitoring data forms a part of the Project Post-mining Management Report. | Cattle stocking rate monitoring demonstrates target stocking rate is approximately 0.4 adult equivalents per hectare (AE/ha) consistent with pre-mining stocking rates. |
| Waste Rock Emplacements | Safe | Potential safety risks are identified and appropriately addressed so the site is safe. | Safety assessment (including risk assessment) prepared by a suitably qualified person.<br>The safety assessment forms a part of the Project Post-mining Management Report. | The safety assessment concludes that the rehabilitated waste rock emplacements do not pose a safety risk. |

**Table H1 (Continued)**
**Rehabilitation Requirements - Land Outcome (Grazing PMLU)**

| Rehabilitation Area | Rehabilitation Goal | Rehabilitation Objective | Performance Indicator | Completion Criteria |
|---|---|---|---|---|
| Waste Rock Emplacements (Continued) | Stable | Rehabilitated waste rock emplacements within the final landform are geotechnically stable. | Geotechnical assessment of the rehabilitated waste rock emplacements prepared by a suitably qualified person.<br>The geotechnical assessment forms a part of the Project Post-mining Management Report. | The geotechnical assessment concludes:<br>▪ Waste rock emplacement final landform slopes are approximately 10° or lower.<br>▪ The toe of out-of-pit waste rock emplacements is set back by an appropriate distance from the crest of residual voids and drainage systems installed to exclude surface water runoff from reporting to the residual voids.<br>▪ The final landform demonstrates the level of stability as specified on the design. |
| | | Landform water management features functioning as designed and minimal presence of erosion. | Erosion monitoring data (erosion rates and sheets, rills and gully formation).<br>Erosion monitoring data forms a part of the Project Post-mining Management Report. | Erosion monitoring data demonstrates the following for two years post-rehabilitation:<br>▪ Limited erosion (i.e. presence of sheet, rill and gully erosion) observed.<br>▪ Soil loss rates are comparable to relevant rehabilitation reference monitoring sites.<br>▪ Erosion maintenance requirements are comparable to relevant rehabilitation reference monitoring sites. |
| | Non-polluting | Runoff and seepage from rehabilitated waste rock emplacements are a low risk of causing environmental harm. | Surface and groundwater quality monitoring data (e.g. sediment load, pH, heavy metal content, etc.).<br>Surface and groundwater quality monitoring data forms a part of the Project Post-mining Management Report. | Receiving water quality monitoring results comply with environmental authority water quality criteria, for a period of at least two years post-rehabilitation. |
| | | | Environmental risk assessment prepared by a suitably qualified person.<br>The environmental risk assessment forms a part of the Project Post-mining Management Report. | The environmental risk assessment concludes that there is a low risk of environmental harm. |
| | | Potentially contaminated areas are remediated and are safe. | Contaminated land assessment prepared in accordance with the *Queensland auditor handbook for contaminated land* (DES, 2018c) by a suitably qualified person. The contaminated land assessment forms a part of the Project Post-mining Management Report. | No contaminated land exists within the Project final landform. |

**Table H1 (Continued)**
**Rehabilitation Requirements - Land Outcome (Grazing PMLU)**

| Rehabilitation Area | Rehabilitation Goal | Rehabilitation Objective | Performance Indicator | Completion Criteria |
|---|---|---|---|---|
| Waste Rock Emplacements (Continued) | Able to sustain proposed PMLU | Establish low-intensity cattle grazing land use. | Rehabilitation monitoring (e.g. erosion, soil physical and chemical parameters, organic matter and nutrient presence, cycling and vegetation dynamics, and habitat complexity and quality for woodland patches).<br>Monitoring data forms a part of the Project Post-mining Management Report. | Rehabilitation monitoring demonstrates that:<br>▪ Physical, chemical and biological properties of the growth media are similar to relevant rehabilitation reference monitoring sites.<br>▪ Pasture vegetation comprises grass species suitable for grazing and comparable to relevant rehabilitation reference monitoring sites (e.g. Buffel Grass [*Cenchrus ciliaris*], Wiregrass [*Aristida sp*] and Kangaroo Grass [*Themeda triandra*]).<br>▪ Woodland patches comprise vegetation species diversity (and demonstrate generational succession) comparable to relevant rehabilitation reference monitoring sites, including monitoring sites within woodland patches of comparable low-intensity grazing land uses.<br>▪ Vegetation cover and densities are comparable to relevant rehabilitation monitoring reference sites for a period of at least two years post-rehabilitation.<br>▪ Weed diversity and abundance is comparable to relevant rehabilitation monitoring reference sites.<br>▪ Pests do not occur in substantial numbers (i.e. not greater than relevant reference sites) or visibly affect the pasture and woodland vegetation development. |
| | | | Cattle stocking rate.<br>Cattle stocking rate monitoring data forms a part of the Project Post-mining Management Report. | Cattle stocking rate monitoring demonstrates target stocking rate is 0.4 AE/ha consistent with pre-mining stocking rates. |

**Table H2**
**Rehabilitation Requirements - Land Outcome (NUMA)**

| Improvement Area | Rehabilitation Goal | Management Objective | Performance Indicator | Completion Criteria |
|---|---|---|---|---|
| Residual Void Lake, Highwall and Low Wall Areas | Safe | Potential safety risks are identified and appropriately addressed so the site is safe. | Safety assessment (including risk assessment) prepared by a suitably qualified person.<br>The safety assessment forms a part of the Project Post-mining Management Report. | The safety assessment concludes:<br>▪ Safety perimeter bunding or fencing is installed around the crest of highwalls to prevent access by native fauna, livestock and people.<br>▪ The residual voids do not pose a safety risk. |
| | Stable | Improvement Areas within the final landform are geotechnically stable. | Geotechnical assessment of the Improvement Area prepared by a suitably qualified person.<br>The geotechnical assessment forms a part of the Project Post-mining Management Report. | The geotechnical assessment concludes:<br>▪ Residual void highwalls have been constructed as designed and are stable.<br>▪ In-pit waste rock emplacements that are not re-graded and rehabilitated as part of the PMLU have been constructed as designed and are stable.<br>▪ The toe of out-of-pit waste rock emplacements is set back by an appropriate distance from the crest of residual voids. Drainage systems are installed to design.<br>▪ The distance of the safety perimeter bunding or fencing installed around the crest of highwalls accommodates potential for degradation or slope failure over time.<br>▪ The final landform demonstrates the level of stability as specified by the design. |

**Table H2 (Continued)**
**Rehabilitation Requirements - Land Outcome (NUMA)**

| Improvement Area | Rehabilitation Goal | Management Objective | Performance Indicator | Completion Criteria |
|---|---|---|---|---|
| Residual Void Lake, Highwall and Low Wall Areas (Continued) | Non-polluting | Improvement Areas are isolated from the Isaac River floodplain. | Flood assessment prepared by a suitably qualified person.<br>The flood assessment forms a of the Project Post-mining Management Report. | The flood assessment concludes that the residual voids are isolated from all flood events, up to and including a PMF event. |
| | | Improvement Areas present low risk of harm to the environment. | Groundwater assessment prepared by a suitably qualified person.<br>The groundwater assessment forms a part of the Project Post-mining Management Report. | The groundwater assessment concludes that the residual voids are acting as groundwater sinks, preventing the migration of potentially saline water into adjacent aquifers and watercourses. |
| | | | Residual void water balance prepared by a suitably qualified person.<br>The residual void water balance forms a part of the Project Post-mining Management Report. | The residual void water balance concludes that the residual void lakes would equilibrate below the point at which they would spill to the surrounding environment. |
| | | | Environmental risk assessment prepared by a suitably qualified person.<br>The environmental risk assessment forms a part of the Project Post-mining Management Report. | The environmental risk assessment concludes that there is a low risk of environmental harm. |

### *Impacts to Prescribed Environmental Matters*

**H5:** Significant residual impacts to prescribed environmental matters, are not authorised under this environmental authority or the EO Act (*Environmental Offsets Act 2014*), unless the impact(s) is specified in **Table H3 – Significant Residual Impacts to Prescribed Environmental Matters**.

**H6:** Records demonstrating that each impact to a prescribed environmental matter, not listed in **Table H3 – Significant Residual Impacts to Prescribed Environmental Matters**, did not, or is not likely to, result in a significant residual impact to that matter must be:

a) completed by an appropriately qualified person; and

b) kept for the life of the environmental authority.

**H7:** An environmental offset made in accordance with the EO Act and *Queensland Environmental Offsets Policy*, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in **Table H3 – Significant Residual Impacts to Prescribed Environmental Matters**, unless a lesser extent of the impact has been approved in accordance with Condition H5 (for staged offsets).

**H8:** The significant residual impacts to a prescribed environmental matter authorised in Condition H5 for which an environmental offset is required by Condition H7 may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.

**Table H3**
**Significant Residual Impacts to Prescribed Environmental Matters**

| MSES | | | Total Area of Impact (ha) |
|---|---|---|---|
| Regulated Vegetation | 'Endangered' regional ecosystem | RE 11.3.1 | 64.5 |
| | | RE 11.4.8 | 2.4 |
| | | RE 11.4.9 | 23.1 |
| | | RE 11.9.5 | 17.7 |
| | 'Of Concern' regional ecosystem | RE 11.3.2 | 9.6[1] |
| | | RE 11.3.3c | 6.9 |
| | | RE 11.3.4 | 39.8 |
| | Regional ecosystem within the defined distance of a vegetation management watercourse | RE 11.3.1 | 1.3 |
| | | RE 11.4.4 | 0.1[2] |
| | | RE 11.9.3 | 3.1[2] |
| | Essential habitat | | 1,834.2 |
| Connectivity Areas | | | 719.1 |
| Protected Wildlife Habitat[#] | *Solanum adenophorum* | | 0.2 |
| | Ornamental Snake (*Denisonia maculata*)[3] | | 1,834.2 |
| | Squatter Pigeon (southern subspecies) (*Geohaps scripta scripta*)[3] | | 261.2 |
| | Koala (*Pharscolartos cinereus*)[3] | | 314.5 |
| | Greater Glider (*Petauroides volans*)[3] | | 167.1 |

Source: Appendices D and E.

[1] The area associated with this MSES equates to the Poplar Box TEC under the EPBC Act.

[2] The area associated with this MSES equates to the Natural Grasslands TEC under the EPBC Act.

[3] This species is also listed under the EPBC Act.

[#] The REs and species habitats overlap (i.e. the REs and species habitats are not mutually exclusive).

**H9:** Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following must be provided to the administering authority:

1. for the forthcoming stage—the estimated significant residual impacts to each prescribed environmental matter; and
2. for the previous stage, if applicable—the actual significant residual impacts to each prescribed environmental matter, to date.

**H10:** The report required by Condition H9 must be approved by the administering authority before a notice of election for the forthcoming stage, if applicable, is given to the administering authority.

**H11:** A notice of election for the staged environmental offset referred to in Condition H10, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.

**H12:** Within six months from the completion of the final stage of the Project, a report completed by an appropriately qualified person, that includes the following matters, must be provided to the administering authority:

1. an analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and
2. if applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

***Exploration***

**H13:** Land subject to exploration activities must be rehabilitated in accordance with the *Eligibility Criteria and Standard Conditions for Mining Lease Activities* (DEHP, 2016c).

### 7.4.9 Schedule I – Regulated Structures

***Assessment of Consequence Category***

**I1:** The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures*, at the following times:

a) prior to the design and construction of the structure, if it is not an existing structure; or

b) prior to any change in its purpose or the nature of its stored contents.

**I2:** A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.

**I3:** Certification must be provided by the suitably experienced and qualified person who undertook the assessment, in the form set out in the *Manual for assessing consequence categories and hydraulic performance of structures*.

***Design and Construction of a Regulated Structure***

**I4:** All regulated structures must be designed by, and constructed under the supervision of, a suitably experienced and qualified person in accordance with the requirements of the *Manual for assessing consequence categories and hydraulic performance of structures*.

**I5:** Construction of a regulated structure is prohibited unless:

a) the holder has submitted a consequence category assessment report and certification to the administering authority; and

b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.

**I6:** Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the *Manual for assessing consequence categories and hydraulic performance of structures*, and must be recorded in the Register of Regulated Structures (Condition I29).

**I7:** Regulated structures must:

1. be designed and constructed in compliance with the *Manual for assessing consequence categories and hydraulic performance of structures*;
2. be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of:
    a) floodwaters from entering the regulated dam from any watercourse or drainage line;
    b) wall failure due to erosion by floodwaters arising from any watercourse or drainage line; and
3. have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.

**I8:** Certification by the suitably qualified experienced and qualified person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:

a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and

b) construction of the regulated structure is in accordance with the design plan.

***Notification of Affected Persons***

**I9:** All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure:

a) for existing structures that are regulated structures, within 10 business days of this condition taking effect;

b) prior to the operation of the new regulated structure; and

c) if the emergency action plan is amended, within five business days of it being amended.

***Operation of a Regulated Structure***

**I10:** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of the regulated structure, all of the following:

1. one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with Condition I5;
2. a set of 'as constructed' drawings and specifications;
3. certification of the 'as constructed drawings and specifications' in accordance with Condition I8;
4. where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the Design Storage Allowance (DSA) volume across the system, a copy of the certified system design plan;
5. the requirements of this authority relating to the construction of the regulated structure have been met;
6. the holder has entered the details required under this authority, into a Register of Regulated Structures; and
7. there is a current operational plan for the regulated structure.

**I11:** For existing structures that are regulated structures:

1. where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and
2. there must be a current operational plan for the existing structures.

**I12:** Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.

***Mandatory Reporting Level***

**I13:** Conditions I14 to I17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.

**I14:** The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.

**I15:** The holder must, as soon as practicable but within 48-hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.

**I16:** The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.

**I17:** The holder must record any changes to the MRL in the Register of Regulated Structures.

***Design Storage Allowance***

**I18:** The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system, taken prior to 1 July of each year.

**I19:** By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the DSA volume for the dam (or network of linked containment systems).

**I20:** The holder must, as soon as practicable but within 48-hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.

**I21:** The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

***Annual Inspection Report***

**I22:** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

**I23:** At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.

**I24:** The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures*.

**I25:** The holder must, within 20 business days of receipt of the annual inspection report, provide to the administering authority:

1. the recommendations section of the annual inspection report;
2. if applicable, any actions being taken in response to those recommendations; and
3. if, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.

***Transfer Arrangements***

**I26:** The holder must provide a copy of any reports, documentation and certifications prepared under this environmental authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.

### *Decommissioning and Rehabilitation*

**I27:** Regulated structures must not be abandoned but be either:

1. decommissioned and rehabilitated to achieve compliance with Condition I28; or
2. left *in-situ* for a use by the landholder provided that:
    a) it no longer contains contaminants that will migrate into the environment;
    b) it contains water of a quality that is demonstrated to be suitable for its intended use(s);
3. the holder of the environmental authority holder and the landholder agree in writing that the:
    a) regulated structure will be used by the landholder following the cessation of the environmentally relevant activity(ies); and
    b) landholder is responsible for the regulated structure, on and from an agreed date.

**I28:** Before surrendering this environmental authority, the site must be rehabilitated to achieve the rehabilitation requirements in **Table H1 – Rehabilitation Requirements – Land Outcome (Grazing PMLU)** and **Table H2 – Rehabilitation Requirements – Land Outcome (NUMA)**.

### *Register of Regulated Structures*

**I29:** A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.

**I30:** The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.

**I31:** The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with Conditions I10 and I11 has been achieved.

**I32:** The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.

**I33:** All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this environmental authority, or their delegate, as being accurate and correct.

**I34:** The holder must supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.