

Permit

Environmental Protection Act 1994

Environmental Authority P-EA-100326888

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: P-EA-100326888

The environmental authority takes effect on 7 July 2026.

Environmental authority holder

Name	Registered address
Savannah Goldfields Limited	Level 21 Matisse Tower 110 Mary Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activities	Location
Schedule 3 16: Mining gold ore Ancillary 08 – Chemical Storage; 1 – Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 in containers of at least 10m ³ Ancillary 33 – Crushing, milling, grinding or screening more than 5000t of material in a year	ML100030

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of land give written notice to the administering authority if they become aware of the following:

- the presence of, or happening of an event involving, a hazardous contaminant on the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- if the land is contaminated land – a change in the condition of the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the land (notice must be given within 20 business days).

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200(1) of the EP Act, an EA has effect:

- (a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority—on the nominated day; or
- (b) if the authority states a day or an event for it to take effect—on the stated day or when the stated event happens; or
- (c) otherwise—on the day the authority is issued.

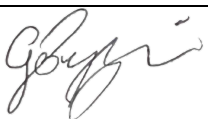
However, in accordance with section 200(2) of the EP Act, the day that the EA takes effect may not be before:

- (a) if the authority is for a resource activity—the day the relevant tenure is granted to the applicant; or
- (b) if a development permit for a material change of use of premises under the *Planning Act 2016* is necessary for carrying out an activity that related to the authority—the day the development permit takes effect; or
- (c) if an SDA Approval under the *State Development and Public Works Organisation Act 1971* is necessary for carrying out an activity that relates to the authority—the day the approval takes effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this EA is the same day each year as the effective date. The payment of the annual fee will be due each year on this day.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid EA.



Signature

Giles Bezzina

Department of the Environment, Tourism, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

7 July 2026

Date

Enquiries:

Minerals Business Centre
PO Box 7230, Cairns QLD 4870
Phone: (07) 4222 5352
Email: ESCairns@detsi.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this EA, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to restore the environment (section 319C)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443).

Other permits required

This permit only provides an approval under the EP Act. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department, and other State and Federal Government agencies prior to commencing any activity at the site. For example, this may include permits or approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access State controlled roads), the Department of Natural Resources and Mines, Manufacturing, and Regional and Rural Development (to clear vegetation), and the Department of Primary Industries (to clear marine plants or to obtain a quarry material allocation).

Obligations under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

Matters of national environmental significance (MNES) are regulated under the Commonwealth EPBC Act rather than under state legislation. You may need to submit a referral if your project potentially impacts any matters protected under the EPBC Act. For more information on self-assessments, and referral and assessment processes, please visit the Australian Government Department of Climate Change, Energy, the Environment and Water's website at www.dcceew.gov.au/environment/epbc/advice.

Obligations under the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003* (the Cultural Heritage Acts)

The Cultural Heritage Acts require anyone who carries out a land-use activity to exercise a duty of care. This 'duty of care' means land users must take all reasonable and practicable measures to ensure their activity does not harm Aboriginal or Torres Strait Islander cultural heritage, and applies to any activity where Aboriginal or Torres Strait Islander cultural heritage is located. For more information on your obligations under this legislation, please visit the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism webpage at, www.dwatsipm.qld.gov.au.

Conditions of environmental authority

The environmentally relevant activities conducted at the location as described above must be conducted in accordance with the following site-specific conditions of approval. This environmental authority consists of the following Schedules:

Schedule	Matter
A	General
B	Air
C	Noise
D	Surface Water
E	Groundwater
F	Regulated Structures
G	Sewage Treatment
H	Waste Management
I	Land
J	Definitions
K	Figures

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 must not exceed the maximum disturbance area in **Schedule A – Table A1 (Authorised Disturbance)**.
- A3** The mine site layout must be in accordance with the design layout in **Schedule K – Figure K1 (Authorised Disturbance)**, except where delineated by bounded coordinates in **Schedule A – Table A1 (Authorised Disturbance)**.

Schedule A – Table A1 (Authorised Disturbance)

Domain	Mine Feature Name	Maximum Disturbance Area (ha)	Bounded Coordinates GDA2020, MGA Zone 54	
			Easting	Northing
Pits	Pit 1 and Pit 2	5.89	767390	7897052
			767582	7897099
			767470	7897603
			767277	7897555
	Pit 3	1.06	767592	7897587
			767535	7897674
			767423	7897593
			767480	7897506
	Pit 4	1.68	767457	7897906
			767319	7897903
			767321	7897736
			767459	7897739
	Pit 6	4.70	768396	7898024
			768192	7897814
			768347	7897647
			768552	7897857
Waste Rock Dumps	NW WRD	3.32	767166	7898180
			767068	7898066
			767287	7897858
			767385	7897973
	SW WRD	2.16	767332	7897327
			767196	7897262
			767303	7897011
			767439	7897075
	Pit 1 WRD	4.26	767653	7897241
			767804	7897391
			767630	7897584

			767479	7897434
	Pit 6 WRD	7.05	768148	7897670
			768385	7897723
			768288	7898213
			768051	7898161
	Low grade WRD	5.11	768178	7897623
			767996	7897723
			767851	7897434
			768033	7897334
Mine Infrastructure	ROM Pad ¹	1.34	768309	7896473
	Administration, Camp, Maintenance, Storage and Irrigation Area ¹	1.26	768452	7895821
	Explosives Magazine ¹	0.08	768046	7896776
	Laydown ¹	0.12	768015	7897248
	Mine Work Areas	0.84	Refer to Condition A3	
Water Infrastructure	Water Storage Dam	5.26	768303	7896992
	Sediment Dam A ¹	0.38	767673	7897565
	Sediment Dam B ¹	0.39	768090	7897296
	Sediment Dam C ¹	0.34	768089	7898397
	Sediment Dam D ¹	0.18	768369	7896588
	NW WRD Sediment Dam ¹	0.15	767449	7897929
	SW WRD Sediment Dam ¹	0.12	767343	7897355
	SW WRD Sump ¹	0.02	767423	7897166
	Water Diversions ¹	6.10	Refer to Condition A3	
	Tank Farm ¹	0.01	768076	7897378
Topsoil Stockpiles	Topsoil Stockpiles	1.37	Refer to Condition A3	
Roads and Tracks	Haul Road	8.35	Refer to Condition A3	
	Existing access tracks	6.91	Refer to Condition A3	
Exploration	Exploration	10	N/A	
TOTAL		78.45		

Notes:

1. Feature located by centroid value, layout in accordance with **Condition A3**.

Maintenance of Measures, Plant and Equipment

A4 The holder of this environmental authority must:

- (a) install 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 condition;
- (c) operate such measures, plant and equipment in a proper manner; and

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

Monitoring and Reporting

- A5** All monitoring, monitoring data, records and reports required by this environmental authority or related to environmental management of the activities must be:
- (a) carried out by an appropriately qualified person;
 - (b) kept for a period of not less than five (5) years;
 - (c) provided to the administering authority in the specified format within ten (10) business days of a request; and
 - (d) undertaken in accordance with the most recent version of any applicable standard or guideline for the activity.
- A6** The following information must be recorded in relation to all monitoring required under a condition of this environmental authority:
- (a) the date and time when the sample/measurement was taken;
 - (b) the location where the sample was taken; and
 - (c) any other pertinent details of relevance to interpreting the sampling results (i.e., stream flow, wind conditions, atmospheric conditions, locations of blasting, or any observations such as odour or colouration).

Risk Management

- A7** By 8 January 2027, the holder of this environmental authority must develop and implement a risk management system for mining activities which conforms to the *Standard for Risk Management (ISO31000:2009)* or the latest edition of the Australian Standard for Risk Management.

Environmental risk management procedures

- A8** By 8 January 2027, the holder of this environmental authority must develop and implement an emergency response/ contingency plan to respond to emergency events and incidents. The emergency response/ contingency plan must address the following matters as a minimum:
- (a) response procedures to be implemented to prevent or minimise the risk of environmental harm arising from emergency events and incidents;
 - (b) response procedures to minimise the extent and duration of environmental harm caused by an emergency event or incident;
 - (c) the practices and procedures to be employed to restore the environment or mitigate any environmental harm caused;
 - (d) the resources to be used in response to an emergency event or incident;
 - (e) procedures to investigate the cause of any emergency events or incidents, including releases, and remedial actions to reduce the likelihood of recurrence of similar events;
 - (f) the provision and availability of documented procedures to staff attending any emergency event or incident to enable them to effectively respond;
 - (g) training of staff that will be called upon to respond to emergency events or incidents to enable them to effectively respond;
 - (h) timely and accurate reporting of the circumstance and nature of emergency events or incidents to the administering authority in accordance with the conditions of this environmental authority;
 - (i) procedures for assessing monitoring points during emergency events or incidents;

- (j) procedures to notify any potentially impacted stakeholder who may be affected by the emergency event or incident; and
- (k) provisions for periodic review of the emergency response/contingency plan to ensure it reflects the contemporary state of the activity.

Notification

- A9** 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.
- A10** 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;
 - (c) proposed actions to prevent a recurrence of the emergency or incident.

Complaints

- A11** 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) person responsible for resolving the complaint.
- A12** The holder of this environmental authority 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 actual or potential 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 ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

Third Party Reporting

- A13** The holder of this environmental authority must:
- (a) by 8 July 2027 date, obtain a written report from an appropriately qualified person on compliance with the conditions of this environmental authority;
 - (b) obtain such reports from an appropriately qualified person at regular intervals not exceeding three (3) yearly intervals from the date on which the report referred to in condition A14(a) was provided; and
 - (c) provide each report to the administering authority within ninety (90) days of the report's completion.

Exploration

- A14** All exploration activities carried out at the licenced place must comply with each of the Standard

Environmental Conditions contained in the most recent version of the *Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects* (the ERA Standard) (ESR/2016/1985). Where there is a discrepancy between the ERA Standard and this environmental authority, the conditions of the environmental authority prevails.

Transition to New Standards

- A15** Where a condition of this environmental authority requires compliance with a standard, guideline or policy published externally to this environmental authority and the standard, guideline or policy is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority, unless otherwise agreed to by the administering authority, must:
- (a) comply with the amended or changed standard, guideline or relevant legislation within two (2) years of the amendment or change being made, unless a different period is specified in the amended standard, guideline, policy or relevant legislation; and
 - (b) continue to remain in compliance with the previous standard, guideline or policy until compliance with the amended or changed standard, guideline or policy is achieved.

END OF CONDITIONS FOR SCHEDULE A

Schedule B – Air

- B1** The release of odour, dust, particulate matter or any other airborne contaminant(s), or light resulting from the activities must not cause an environmental nuisance at any sensitive place or commercial place.
- B2** When requested by the administering authority, dust and particulate monitoring must be undertaken in the manner prescribed by the administering authority, to investigate any complaint. The monitoring results must be provided to the administering authority within ten (10) business days following receipt of results.
- B3** The holder of this environmental authority must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that 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:
- (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of *Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method*.
 - (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, when monitored in accordance with the most recent version of either:
 - (i) *AS/NZS 3580.9.11 Methods for sampling and analysis of ambient air Method 9.11: Determination of suspended particulate matter – PM10 beta attenuation monitors*.
 - (ii) *Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air Determination of suspended particulate matter – PM₁₀ high volume sampler with size-selective inlet – Gravimetric method; or*
 - (iii) *Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air Determination of suspended particulate matter – PM₁₀ low volume sampler – Gravimetric method*.
 - (c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM_{2.5}) suspended in the atmosphere of 20 micrograms per cubic metre over a 24 hour averaging time, when monitored in accordance with the most recent version of *AS/NZS 3580.9.12 Methods for sampling and analysis of ambient air Method 9.12: Determination of suspended particulate matter – PM2.5 beta attenuation monitors*.
 - (d) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 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*.
- B4** If monitoring undertaken in accordance with **Condition B2** indicates exceedance of the relevant limits specified in **Condition B3** at a sensitive or commercial place as a result of the activities, the holder of this environmental authority must immediately implement dust abatement measures to ensure compliance with the limits specified in **Condition B3**.
- B5** The holder of this environmental authority must ensure that all vehicles transporting mine products offsite are appropriately loaded and maintained to prevent spillage, loss of particulate matter, or the generation of windblown dust during transport.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Noise

- C1** Noise and vibration from the activities must not cause environmental harm at any sensitive place or commercial place.
- C2** In the event of a complaint made to the administering authority about noise or vibration generated in carrying out the activities and the noise or vibration is considered by the administering authority to be unreasonable, the holder of this environmental authority must take action to ensure that it is no longer an unreasonable noise or vibration.
- C3** The holder of this environmental authority must ensure that noise generated by the activities does not exceed the limits specified in **Schedule C – Table C1 (Noise Limits)** at any sensitive place or commercial place.

Schedule C – Table C1 (Noise Limits)

Sensitive place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 7am
L_{Aeq} , adj, 1hr	42	38	36	42	38	36
L_{A1} , adj, 1hr	47	43	41	47	43	41
Commercial place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 7am
L_{Aeq} , adj, 1hr	47	43	41	47	43	41

Monitoring and Reporting

- C4** By 8 October 2026, the holder of this environmental authority must implement and maintain a noise monitoring program to ensure compliance with the conditions of this environmental authority. The program must comply with the most recent edition of the administering authority's Noise Measurement Manual or the most recent version of the Australian Standard *AS1055 Acoustics – Description and measurement of environmental noise*.
- C5** A copy of the noise monitoring program required by **Condition C4** must be provided to the administering authority on request.
- C6** Noise monitoring and recording must include the following descriptor characteristics and matters:
- LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins); and
 - Background noise LA90; and
 - The level and frequency of occurrence and impulsive or tonal noise and any adjustment and penalties to statistical levels; and
 - Atmospheric conditions including temperature, relative humidity and wind speed and directions; and
 - Effects due to any extraneous factors such as traffic noise; and
 - Location, date and time of monitoring; and
 - If the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

- C7** The holder of this environmental authority must ensure that blasting does not exceed the peak particle velocity and air blast overpressure limits specified in **Schedule C – Table C2 (Blasting Noise Limits)** at any sensitive place or commercial place.

Schedule C – Table C2 (Blasting Noise Limits)

Blasting noise limits	Sensitive or commercial place limits	
	7am to 6pm	6pm to 7am
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
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10mm/second peak particle velocity at any time	No blasting

- C8** The holder of this environmental authority must develop and implement and maintain a blast monitoring program to monitor compliance with **Schedule C – Table C2 (Blasting Noise Limits)** for:
- (a) At least 50% of all blasts undertaken on the licenced place each year at the nearest sensitive place or commercial place; and
 - (b) All blasts conducted during any time period specified by the administering authority at any sensitive place or commercial place.
- C9** Where blast monitoring detects non-compliance with **Schedule C – Table C2 (Blasting Noise Limits)**, the holder of this environmental authority must:
- (a) Implement measures to ensure compliance is achieved by subsequent blasts; and
 - (b) Monitor all consecutive blasts until at least three (3) successive blasts comply with **Schedule C – Table C2 (Blasting Noise Limits)**.
- C10** The method of measurement and reporting of vibration levels must comply with the most recent edition of the administering authority's guideline *Noise and vibration from blasting*.
- C11** The method of measurement and reporting of airblast overpressure levels must comply with the most recent version of the Australian Standard 2187.2 2006 *Explosives – Storage and use*.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Surface Water

- D1** 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 activities.
- D2** All determinations of water quality, sediment quality and biological monitoring must be:
- (a) Performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; and
 - (b) Made in accordance with methods prescribed within the latest version of the Queensland Government's 'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009'.

Surface water environment monitoring

- D3** Surface waters and sediments must be monitored at the locations and frequency specified in **Schedule D – Table D1 (Surface waters and sediment monitoring locations)**.

Schedule D – Table D1 (Surface water and sediment monitoring locations)

Monitoring Location	Location GDA2020, MGA Zone 54		Receiving waters description	Monitoring frequency
	Easting	Northing		
Upstream monitoring sites				
ACUSR01	769045	7897203	Upstream Agate Creek; downstream of landholder dam	Monthly
ACUSR08	769411	7896447	Upstream Agate Creek; adjacent Cobb Road	
ACUSR05	768143	7896160	Unnamed tributary of Agate Creek, 80m upstream of haul road crossing	
Downstream monitoring sites				
ACDSI07	767935	7898805	Boundary compliance point in Agate Creek	Monthly
SWA09	768397	7898805	Agate Creek downstream of all mine operations and tributaries flowing into Agate Creek at ML boundary	
ACDSI01	768122	7898516	Agate Creek downstream of Pit 5, Pit 6, and North WRD	
ACDSI05	768854	7897718	Agate Creek downstream of Pit 5, water storage dam, ROM, South WRD, and mine camp	
ACDSI06	767908	7898336	Agate Creek downstream of all mine operations and flowing into Agate Creek	

- D4** Surface waters must be monitored for the quality characteristics specified in **Schedule D – Table D2 (Surface water quality characteristics)**.

Schedule D – Table D2 (Surface water quality characteristics)

Quality Characteristic	Unit
Electrical Conductivity	µS/cm
pH	pH Units
Total Suspended Solids	mg/L
Turbidity	NTU
Dissolved Oxygen	mg/L
Fluoride	mg/L
Sulfate	mg/L

Receiving Environment Monitoring Program

- D5** By 8 October 2026, a Receiving Environment Monitoring Program (REMP) must be designed and implemented by an appropriately qualified person to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. For the purposes of the REMP, the receiving environment is the waters of Agate Creek and connected or surrounding waterways within 10 km downstream of the mining activities. The REMP must encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be affected by mining activities.
- D6** Prior to its implementation, the REMP must be submitted to the administering authority and due consideration must be given to any comments made by the administering authority on the REMP.
- D7** The REMP must, at a minimum:
- Address and comply with the latest version of the administering authority's guideline Receiving environment monitoring program guideline (ESR/2016/2399); and
 - Identify, describe and monitor any adverse impacts to surface water environmental values, quality and flows; and
 - Assess the long-term condition or state of surface waters, sediment and aquatic ecosystem health; and
 - Include the locations listed in **Schedule D – Table D1 (Surface water and sediment monitoring locations)**; and
 - Identify and describe all environmental values of the receiving environment; and
 - Include an assessment of the potential impacts of the activity and propose appropriate mitigation measures; and
 - Assess the status of, and any change to, aquatic ecosystem health including aquatic flora and fauna within and immediately surrounding the project area; and
 - Assess the status of and any change to riparian vegetation health within and immediately surrounding the project area; and
 - Apply procedures and/or guidelines from ANZG 2018 and other relevant standards and guideline documents; and
 - Describe sampling and analysis methods and quality assurance and control; and
 - Incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

- D8** A REMP Annual Report must be prepared annually by an appropriately qualified person and submitted in writing to the administering authority by 1 June each year.
- D9** The REMP Annual Report required by **Condition D8** must outline the findings of the REMP, including but not limited to:
- (a) An assessment of long-term upstream water quality; and
 - (b) An assessment of the long-term condition or state of surface waters, sediment and aquatic ecosystem health; and
 - (c) Recommendations for further investigations or actions; and
 - (d) Recommendations for changes or improvements to the monitoring program; and
 - (e) Potential changes to management of the authorised activity to minimise impacts; and
 - (f) All monitoring results; and
 - (g) A description of all conclusions formed.

Water Management Plan

- D10** By 8 January 2027, a water management plan must be developed and implemented, which provides for the proper and effective management of the actual and potential environmental impacts from the activity and to ensure compliance with the conditions of this environmental authority.
- D11** The water management plan must be developed by an appropriately qualified person and must include, but not be limited to, the following components:
- (a) Contaminant source study;
 - (b) Site water balance and model;
 - (c) Water management system;
 - (d) Saline drainage prevention and management measures;
 - (e) Acid rock drainage prevention and management measures;
 - (f) Emergency and contingency planning; and
 - (g) A program for monitoring and review of the effectiveness of the water management plan.
- D12** The holder of this environmental authority must undertake a review of the water management plan before 1 November each year to ensure that proper and effective measures, practices or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

Erosion and Sediment Control

- D13** By 8 January 2027, an erosion and sediment control plan (ESCP) must be developed by an appropriately qualified person and implemented for all stages of the activity.
- D14** By 1 November each year, the ESCP must be reviewed and, if necessary, updated by an appropriately qualified person to address all disturbed areas and any new stages of the activity planned for the following year. The updated ESCP must be implemented prior to the commencement of any new stage of the activity.
- D15** The ESCP must provide for at least the following functions:
- (a) Prevent or minimise the contamination of receiving waters and stormwater;
 - (b) Diverting uncontaminated stormwater run-off around areas disturbed by the activity or where contaminants or wastes are stored or handled;
 - (c) Contaminated stormwater runoff, incident rainfall and leachate is collected and treated, or reused in accordance with the conditions of the environmental authority;

- (d) Roofing or minimising the size of areas where contaminants or wastes are stored and handled;
- (e) Erosion and sediment control structures are placed to minimise erosion of disturbed areas and prevent the contamination of any waters;
- (f) Procedures to ensure that erosion and sediment control structures are maintained and adequate storage is available in sediment dams in accordance with design criteria; and
- (g) Training of staff that will be responsible for maintenance and operations of sediment and erosion control structures.

D16 Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contamination of stormwater.

Onsite Water Storages

D17 Water storages must be monitored at the monitoring locations and frequency defined in **Schedule D – Table D3 (Water Storage Monitoring Locations)** for the water quality characteristics specified in **Schedule D – Table D4 (Onsite Water Storage Contaminant Limits)**.

Schedule D – Table D3 (Water Storage Monitoring Locations)

Water Storage Description	Location GDA2020, MGA Zone 54		Monitoring Frequency
	Easting	Northing	
Water Storage Dam	768303	7896992	Monthly
Sediment Pond A	767673	7897565	
Sediment Pond B	768090	7897296	
Sediment Pond C	768089	7898397	
Sediment Pond D	768369	7896588	
NW WRD Basin	767449	7897929	
SW WRD Basin	767343	7897355	
SW WRD Sump	767423	7897166	

Schedule D – Table D4 (Onsite Water Storage Quality Characteristics)

Quality Characteristics	Unit
pH	pH Units
Electrical Conductivity	µS/cm
Total Suspended Solids	mg/L
Turbidity	NTU
Available Storage Capacity	% or metres (m)

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Groundwater

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

Monitoring and reporting

E2 All determinations of groundwater quality and biological monitoring must be performed by an appropriately qualified person.

E3 Groundwater quality and levels must be monitored at the locations and frequency defined in **Schedule E – Table E1 (Groundwater monitoring locations and frequency)** for quality characteristics identified in **Schedule E – Table E2 (Groundwater quality limits)**.

Schedule E – Table E1 (Groundwater monitoring locations and frequency)

Monitoring Point	Location		Hydrogeological Unit	Screened Interval (m BGL)	Monitoring Frequency	Parameters
	GDA2020, MGA Zone 54					
	Easting	Northing				
Compliance Bores						
CCWB517	768399.5	7896463	Robin Hood Granodiorite	49 – 55	Quarterly	Levels & quality
CCWB518	767768.1	7897706	Andesite/Rhyolite	67 – 73		
CCWB519	767302	7897863	Corbett Formation Metasediments	79 – 85		
CCWB520	767947.2	7897838	Andesite	67 – 73		
CCWB521	768700.6	7898079	Corbett Formation Metasediments	67 – 73		
CCWB522	768761.9	7897724	Corbett Formation Metasediments	67 – 73		
CCWB523	768321.3	7897579	Robin Hood Granodiorite	67 – 73		
CCWB524	768173.6	7897670	Robin Hood Granodiorite	85 – 91		
CCWB525	768173.6	7897930	Corbett Formation Metasediments	97 – 103		
CCWB526	767709.7	7896909	Corbett Formation Metasediments	67 – 73		
CCWB527	767660.1	7897458	Corbett Formation Metasediments	26 – 31		
CCWB528	767954.5	7898381	Corbett Formation Metasediments	67 – 73		
CCWB530	767948	7898378	Corbett Formation Metasediments	4 – 7		
CCWB531	767997.2	7898782	Corbett Formation Metasediments	47 – 55		
CCWB535	768680.8	7897248	Alluvium/Robin Hood Granodiorite	4 – 7		
CCWB536	768622	7897214	Robin Hood Granodiorite	13 – 19		

CCWB537	768005	7898801	Corbett Formation Metasediments	13 – 19		
Interpretation Bores						
CCWB529	770217.4	7900144	Robin Hood Granodiorite	26 – 31	Quarterly	Levels & Quality
CCWB532	770220.8	7900138	Robin Hood Granodiorite	4 – 7		
CCWB533	769580.2	7900063	Robin Hood Granodiorite	19 – 25		
CCWB534	768654.6	7895516	Rhyolite	19 – 25		
CCWB538	768650.8	7895513	Rhyolite	4 – 7		

Schedule E – Table E2 (Groundwater quality limits)

Quality Characteristics	Unit	CCWB517	CCWB518	CCWB519	CCWB520	CCWB521	CCWB522	CCWB523	CCWB524	CCWB525	CCWB526	CCWB527	CCWB528	CCWB529	CCWB530 ^e	CCWB531	CCWB532	CCWB533	CCWB534	CCWB535 ^e	CCWB536	CCWB537	CCWB538
pH (field)	pH unit	6.0 – 8.6 ^c		6.0 – 8.6 ^{c, f}	6.0 – 8.6 ^c			6.0 – 8.6 ^{c, f}	6.0 – 8.6 ^c				6.0 – 8.6 ^{c, f}	6.0 – 8.6 ^c									
Electrical conductivity (field)	µS/cm	2,748 ^c	731 ^c	204 ^c	882 ^c	768 ^c	344 ^c	169 ^c	488 ^c	733 ^{c, f}	1,539 ^c	831 ^c	2,046 ^{c, f}	1,757 ^c	3,897 ^{c, f}	1,395 ^c	3,897 ^c	3,897 ^c	3,908 ^c	3,897 ^{c, f}	7,470 ^c	3,897 ^{c, f}	3,897 ^c
Sulfate	mg/L	29 ^c	137 ^c	14 ^c	173 ^c	78 ^c	28 ^c	13 ^c	82 ^c	126 ^c	96 ^c	77 ^c	285 ^{c, f}	100 ^c	125 ^{c, f}	53 ^c	125 ^c	125 ^c	455 ^c	125 ^{c, f}	689 ^c	125 ^{c, f}	125 ^c
Fluoride	mg/L	7.7 ^c	3.1 ^c	0.3 ^c	2.1 ^c	16.2 ^c	4.7 ^{c, f}	0.6 ^c	1.6 ^c	0.6 ^c	1.0 ^{c, f}	4.0 ^{c, f}	6.2 ^{c, f}	9.0 ^c	1.7 ^{d, f}	2.2 ^{c, f}	1.7 ^d	1.7 ^d	8.3 ^c	1.7 ^{d, f}	4.2 ^{c, f}	1.7 ^{d, f}	1.7 ^d
Aluminium ^{a, b}	µg/L	55 ^{d, f}	55 ^d	55 ^{d, f}	55 ^{d, f}	55 ^{d, f}	55 ^{d, f}	55 ^d	55 ^d	55 ^d	55 ^d	55 ^d	55 ^{d, f}	55 ^d	55 ^{d, f}	55 ^{d, f}	55 ^d	55 ^d	55 ^d	55 ^{d, f}	55 ^d	55 ^d	55 ^d
Arsenic ^{a, b}	µg/L	13 ^d	45 ^c	15 ^c	33 ^c	20 ^c	13 ^d	13 ^d	18 ^{c, f}	20 ^{c, f}	13 ^d	13 ^d	13 ^{d, f}	13 ^d	13 ^{d, f}	13 ^d	13 ^d	13 ^d	13 ^d	13 ^{d, f}	174 ^{c, f}	13 ^d	13 ^d
Boron ^{a, b}	µg/L	420 ^c	230 ^c	588 ^d	300 ^c	420 ^c	210 ^c	588 ^d	588 ^d	588 ^d	680 ^c	588 ^{d, f}	588 ^{d, f}	588 ^d	588 ^{d, f}	588 ^{d, f}	588 ^d	588 ^d	588 ^d	588 ^{d, f}	588 ^{d, f}	588 ^{d, f}	588 ^{d, f}
Cadmium ^{a, b}	µg/L	0.2 ^d																					
Cobalt ^{a, b}	µg/L	8 ^c	4 ^c	25 ^c	4 ^c	1.4 ^d	8 ^c	8 ^c	3 ^c	28 ^c	3.5 ^c	1.4 ^d	1.4 ^d	1.4 ^d	1.4 ^{d, f}	6.5 ^c	1.4 ^d	1.4 ^d	4 ^c	1.4 ^{d, f}	1.4 ^d	1.4 ^d	1.4 ^d
Copper ^{a, b}	µg/L	4 ^c	3 ^c	8 ^c	5 ^c	3 ^c	2.5 ^c	1.4 ^d	1.4 ^d	4 ^c	3.4 ^c	1.4 ^d	1.4 ^d	1.4 ^d	1.4 ^{d, f}	1.4 ^d	1.4 ^d	1.4 ^d	1.4 ^d	1.4 ^{d, f}	1.4 ^d	1.4 ^d	1.4 ^d
Lead ^{a, b}	µg/L	3.4 ^d																					
Manganese ^{a, b}	µg/L	1,900 ^d																					
Mercury ^{a, b}	µg/L	0.06 ^d																					
Molybdenum ^{a, b}	µg/L	34 ^d																					
Nickel ^{a, b}	µg/L	4.4 ^c	11 ^{d, f}	11 ^{d, f}	4.3 ^c	1 ^c	4.0 ^c	8.0 ^c	8.1 ^c	44 ^{c, f}	5.2 ^c	11 ^d	11 ^{d, f}	11 ^d	11 ^{d, f}	7.4 ^{c, f}	11 ^d	11 ^d	11 ^d	11 ^{d, f}	6.0 ^c	4.0 ^c	11 ^d
Selenium ^{a, b}	µg/L	5 ^d																					
Zinc ^{a, b}	µg/L	40 ^c	46 ^{c, f}	131 ^{c, f}	46 ^c	15 ^c	25 ^c	113 ^c	60 ^c	221 ^{c, f}	32 ^c	47 ^c	29 ^c	15 ^c	44 ^{c, f}	24 ^c	44 ^c	44 ^c	21 ^c	44 ^{c, f}	34 ^c	44 ^c	44 ^c
Major ions	mg/L	For interpretation purposes																					
Hardness	mg/L	For interpretation purposes																					
Water Level	mAHD	For interpretation purposes																					

Notes:

- (a) All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and 'total' (unfiltered).
- (b) Limits for metals and metalloids apply to dissolved results.
- (c) Limit corresponds to a site-specific value, based on the 95th percentile of baseline data (either bore-specific or pooled bore data).
- (d) Limit corresponds to ANZG (2018), aquatic ecosystem protection for slightly to moderately disturbed system (95% species protection).
- (e) Dry bore at the time of baseline definition.
- (f) Interim value to be revised once the assessment in **Condition E4** is completed.

- E4** By 8 July 2027, the water quality limits specified within **Schedule E – Table E2 (Groundwater quality limits)** must be reviewed and updated within an amendment application lodged pursuant to the *Environmental Protection Act 1994* to this environmental authority.
- E5** Any groundwater monitoring bore proposed to be decommissioned must be replaced by a suitable replacement bore 12 months prior to decommissioning.
- E6** Any replacement bore must be monitored monthly from the date of installation until decommissioning of the existing bore, and prior to any potential impact from the activity occurring at the replacement bore location, to establish baseline groundwater quality and groundwater level conditions.
- E7** Prior to decommissioning of the existing bore, the holder must submit an amendment application under the *Environmental Protection Act 1994* to:
- (a) Amend Schedule E – Table E1 (Groundwater monitoring locations, quality characteristics and frequency) to include the replacement bore; and
 - (b) Amend Schedule E – Table E2 (Groundwater quality limits) to include groundwater quality limits for the replacement bore.
- E8** The construction, maintenance and decommissioning of groundwater monitoring bores must be undertaken by a licenced appropriately qualified person in a matter that:
- (a) Prevents contaminants entering the groundwater;
 - (b) Ensures the integrity of the bores to obtain representative groundwater samples from the target aquifer; and
 - (c) Maintains the hydrogeological environment within the aquifer.
- E9** A bore drill log must be kept for each groundwater monitoring bore which includes:
- (a) Bore identification reference and geographic coordinate location;
 - (b) Specific construction information including, but not limited to, depth of bore, depth and length of casing, depth and length of screening and bore sealing details;
 - (c) Standing groundwater level and water quality characteristics including physical characteristics and results of laboratory analysis for the possible trigger characteristics;
 - (d) Lithological data and stratigraphic interpretation by an appropriately qualified person to identify important features associated with groundwater monitoring; and
 - (e) Target hydrogeological feature of the bore.
- E10** By 1 June 2027, the holder of this environmental authority must submit a hydrogeological assessment, developed by an appropriately qualified person, to the administering authority. The hydrogeological assessment must include (but not be limited to):
- (a) An overview of activities that have occurred and an assessment of how these activities have affected or altered baseline hydrogeological conditions and associated baseline data. The assessment must include:
 - (i) A comparison of data collected prior to disturbance with data collected following disturbance activities; and
 - (ii) A timeframe identifying when disturbance activities were undertaken, including the development of pits.
 - (b) An assessment of whether groundwater impacts attributable to activities have occurred at compliance bores.
 - (c) An assessment of groundwater connectivity between bores CCWB529, CCWB532 and CCWB533 located to the north-east in the Robin Hood Granodiorite and other bores located downgradient from activities to the west of the Agate Creek Fault.

- (d) An assessment on monitoring of the Corbett Formation upgradient from activities, including whether additional monitoring or interpretation bores are required.
- (e) An investigation and presentation of water quality timeseries to:
 - (i) identify portions of the monitoring dataset potentially affected by bore construction, bore development, poor hydraulic conductivity, or other anomalous conditions; and
 - (ii) identify statistical or hydrogeological outliers that may require exclusion from baseline datasets; and
 - (iii) support the derivation of bore-specific water quality limits.
- (f) Confirmation of whether bores CCWB530 and CCWB535 are located upgradient or downgradient from Agate Creek.
- (g) An assessment of identifying parameters for which dry bores (including CCWB530 and CCWB535) or bores with insufficient baseline data (i.e. less than 8 baseline samples) may present a high risk of false non-compliance. This assessment must:
 - (i) Identify the parameters at risk of false non-compliance; and
 - (ii) Propose alternative water quality limits for the parameters identified in (i) based on data grouped by hydrological units or similar water composition with consideration of bore depth, proximity and potential surface water influence.
- (h) An assessment of potential surface water and groundwater interactions at bores CCWB531 and CCWB537.
- (i) All raw data relied upon, including the most recent available groundwater and water quality monitoring data at the time of submission. This must include raw water quality data from Pit 6.
- (j) A numerical groundwater model, developed in accordance with the *Australian Groundwater Modelling Guidelines* (Barnett et al., 2012), to evaluate pit inflow rates and groundwater impacts associated with historical mining, proposed mining operations and the post-closure period.
- (k) Recommendations for the installation of additional groundwater monitoring bores around the perimeter of existing and proposed pits to:
 - (i) Monitor groundwater level responses and drawdown associated with mining activities; and
 - (ii) Refine and validate the groundwater model as mining progresses.

Exceedance Investigation

- E11** Results of monitoring of groundwater from groundwater bores identified in **Schedule E – Table E1 (Groundwater monitoring locations, quality characteristics and frequency)**, must not exceed any of the contaminant limits defined in **Schedule E – Table E2 (Groundwater quality limits)** on any three (3) consecutive sampling.
- E12** If groundwater from bores identified in **Schedule E – Table E1 (Groundwater monitoring locations, quality characteristics and frequency)** exceed the contaminant limits specified in **Schedule E – Table E2 (Groundwater quality limits)** on three (3) consecutive occasions, the holder of the environmental authority must complete an investigation within fourteen (14) days of receiving the results to determine the cause of the exceedance.
- E13** The holder of this environmental authority must provide a report of the investigation required under **Condition E12** to the administering authority within fourteen (14) days of completion.
- E14** If the investigation under **Condition E12** determines that the exceedance was the result of activities authorised under this environmental authority, then a further investigation must be completed within twenty-eight (28) days of provision of the report under **Condition E13** to determine the source, cause and extent of

contamination and implement appropriate mitigation and management measures to address any groundwater contamination and prevent recurrence of groundwater contamination.

- E15** The further investigation report required under **Condition E14** must be provided to the administering authority within twenty-eight (28) days of completion.
- E16** By 8 January 2027, a groundwater monitoring and management program must be developed, documented and implemented by an appropriately qualified person.
- E17** The groundwater monitoring and management program required under **Condition E16** must, at a minimum:
- (a) Include an assessment of compliance against the conditions of this environmental authority;
 - (b) Identify potential sources, mechanisms, and pathways of contamination to groundwater from the activity;
 - (c) Ensure that all potential groundwater impacts due to the activities authorised under this environmental authority are identified, monitored and mitigated;
 - (d) Document sampling and monitoring methodology;
 - (e) Ensure that adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives;
 - a. Detect any impacts to groundwater levels due to the activities authorised under this environmental authority;
 - b. Detect any impacts to groundwater quality due to the activities authorised under this environmental authority; and
 - c. Determine trends in groundwater quality showing decreasing and increasing trends;
 - (f) Include an appropriate quality assurance and quality control program;
 - (g) Specify the purpose of each groundwater bore, the monitoring location, quality characteristics and frequency;
 - (h) Include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.
- E18** The groundwater monitoring and management program must be reviewed on an annual basis by 30 June by an appropriately qualified person. The review must include at a minimum:
- (a) An assessment that the groundwater monitoring and management program continues to meet the requirements stated in **Condition E17**; and
 - (b) An assessment of the suitability of the monitoring network for groundwater specified in **Schedule E – Table E1 (Groundwater monitoring locations, quality characteristics and frequency)** to detect impacts from the mining activities; and
 - (c) Where relevant information gaps and uncertainty are identified as pertinent to the accuracy of the investigation's findings/conclusions, include recommendations and associated timeframes to address those information gaps and resolve uncertainty.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Regulated Structures

Assessment of consequence categories

- F1** 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 (ESR/2016/1933)* 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.
- F2** 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.
- F3** Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.

Design and construction of a regulated structure

- F4** **Conditions F5 to F9** inclusive do not apply to existing structures.
- F5** All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.
- F6** 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 conditions of this authority.
- F7** 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 (ESR/2016/1933)* and must be recorded in the Register of Regulated Structures.
- F8** Regulated structures must:
- (a) Be designed and constructed in compliance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*;
 - (b) 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; and
 - b. Wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
 - c. 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.
- F9** Certification by the suitably qualified and experienced 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
 - (b) Construction of the regulated structure is in accordance with the design plan.

Notification of affected persons

- F10** 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 5 business days of it being amended.

Operation of a regulated structure

- F11** Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following:
- (a) One electronic copy of the design plan and certification of the 'design plan' in accordance with **Condition F6**;
 - (b) A set of 'as constructed' drawings and specifications;
 - (c) Certification of the 'as constructed drawings and specifications' in accordance with Condition F9;
 - (d) Where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan;
 - (e) The requirements of this authority relating to the construction of the regulated structure have been met;
 - (f) The holder has entered the details required under this authority, into a Register of Regulated Structures; and
 - (g) There is a current operational plan for the regulated structure.
- F12** For existing structures that are regulated structures:
- (a) 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
 - (b) There must be a current operational plan for the existing structures.
- F13** 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

- F14** **Conditions F15 to F18** inclusive apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
- F15** 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.
- F16** The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
- F17** 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.
- F18** The holder must record any changes to the MRL in the Register of Regulated Structures.

Design storage allowance

- F19** 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.
- F20** 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 design storage allowance (DSA) volume for the dam (or network of linked containment systems).
- F21** The holder must, as soon as practicable but within forty-eight (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.
- F22** 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

- F23** Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
- F24** 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.
- F25** 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 (ESR/2016/1933)*.
- F26** The holder must within 20 business days of receipt of the annual inspection report, provide to the administering authority:
- (a) The recommendations section of the annual inspection report; and
 - (b) If applicable, any actions being taken in response to those recommendations; and
 - (c) 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

- F27** The holder must provide a copy of any reports, documentation and certifications prepared under this 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.

Register of Regulated Structures

- F28** A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
- F29** 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.
- F30** The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with **Condition F11** and **F12** has been achieved.
- F31** The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.

- F32** 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.
- F33** The holder must, at the same time as providing the annual return, 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.

Transitional arrangements

- F34** All existing structures that have not been assessed in accordance with either the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* within 6 months of amendment of the authority adopting this schedule.
- F35** All existing structures must subsequently comply with the timetable for any further assessments in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* specified in **Schedule F – Table F1 (Transitional hydraulic performance requirements for existing structures)**, depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
- F36** **Schedule F – Table F1 (Transitional hydraulic performance requirements for existing structures)** ceases to apply for a structure once any of the following events has occurred:
- (a) It has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or
 - (b) It has been decommissioned; or
 - (c) It has been certified as no longer being assessed as a regulated structure.
- F37** Certification of the transitional assessment required by **Condition F34** and **F35** (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.

Schedule F – Table F1 (Transitional hydraulic performance requirements for existing structures)

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams</i>			
Compliance with criteria	High	Significant	Low
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years.
>70% - ≤ 90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50 - ≤ 70%	Within 5 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
≤ 50%	Within 5 years or as per compliance requirements (e.g. TEP timing).	Within 5 years or as per compliance requirements (e.g. TEP timing).	Review consequence assessment every 5 years.

Regulated levee designed to prevent the ingress of clean flood water <100% compliant	Within 5 years unless otherwise agreed with the administering authority.
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Hydraulic performance of regulated structures

F38 The holder of this environmental authority must comply with the hydraulic performance criteria specified in **Schedule F – Table F2 (Regulated structures hydraulic performance criteria)**.

F39 Each regulated structure listed in **Schedule F – Table F2 (Regulated structures hydraulic performance criteria)** must:

- (a) Meet the applicable hydraulic performance criteria listed in **Schedule F – Table F2 (Regulated structures hydraulic performance criteria)** for that structure; and
- (b) Have the Design Storage Allowance and Mandatory Reporting Level calculated in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.

Schedule F – Table F2 (Regulated structures hydraulic performance criteria)

Regulated structure	Consequence category	Hydraulic performance criteria			Purpose of structure
		Spillway Capacity	Design Storage Allowance (DSA) ¹	Mandatory Reporting Level (MRL)	
Water Storage Dam	Significant	1:100 Annual Exceedance Probability (AEP) to 1:1,000 AEP	5% AEP wet season	1 in 10 AEP, 72-hour event	Storage of mine affected water
Pit 1 and Pit 2	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²
Pit 3	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²
Pit 4	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²
Pit 6	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²

Notes:

1. Must be achieved on 1 November of each year.
2. TBA value – refer to **Condition F37**.

F40 By 8 July 2027, the holder of this environmental authority must submit an amendment application under the *Environmental Protection Act 1994*, nominating the TBA values for Pit 1 and Pit 2, Pit 3, Pit 4 and Pit 6 as identified in Footnote 2 of **Schedule F – Table F2 (Regulated structures hydraulic performance criteria)**.

F41 The hydraulic performance criteria specified in this environmental authority are the minimum mandatory performance requirements. All regulated structures must be managed to ensure compliance with all conditions of this environmental authority.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Sewage Treatment

- G1** Treated sewage effluent must only be released to land within the nominated irrigation area specified in **Schedule G – Table G1 (Sewage Treatment Plant and Effluent Disposal)** and in accordance with the contaminant limits specified in **Schedule G – Table G2 (Sewage Effluent Contaminant Release Limits)** and the conditions of this environmental authority.

Schedule G – Table G1 (Sewage Treatment Plant and Effluent Disposal Area)

Description	Location		Location
	GDA2020, MGA Zone 54		
	Easting	Northing	
Effluent irrigation area	768430	7895837	North of camp
	768419	7895886	
	768385	7895878	
	768396	7895829	

- G2** Treated sewage effluent released to land must be monitored at the frequency and for the parameters specified in **Schedule G – Table G2 (Sewage Effluent Contaminant Release Limits)** at the locations specified in **Schedule G – Table G1 (Sewage Treatment Plant and Effluent Disposal Area)**.

Schedule G – Table G2 (Sewage Effluent Contaminant Release Limits)

Contaminant	Release limit	Release limit	Limit type	Frequency
Biochemical oxygen demand (BOD)	mg/L	20	Maximum	Monthly
Total suspended solids	mg/L	30	Maximum	
Nitrogen	mg/L	30	Maximum	
Phosphorus	mg/L	15	Maximum	
<i>E coli</i>	Organisms/100ml	1000	Maximum	
pH	pH units	6.0 – 9.0	Range	
Faecal Coliforms	CFU/100ml	1000	Maximum	

- G3** Treated sewage effluent must only be disposed in accordance with the following outcomes:
- (a) Efficient application of effluent using best practice methods;
 - (b) Control of sodicity in the soil;
 - (c) Minimal degradation of soil structure;
 - (d) Control of the build-up of nutrients and heavy metals in the soil and subsoil from effluent and other sources;
 - (e) Prevention of:
 - a. Subterranean flows of effluent to waters;
 - b. Impacts on the groundwater resource through infiltration;

- c. Run-off of effluent or seepage from disposal areas by limitation of application rates and the use of structures such as bunds and catch dams;
 - d. Surface ponding;
 - e. Spray drift or overspray from effluent disposal areas; and
 - f. Damage to native vegetation;
- (f) Provide prominent signage, in areas irrigated with effluent and which are accessible to the employees and general public, advising that effluent should not be consumed or used;
 - (g) Maximise health and safety protection in relation to effluent handling and irrigation; and
 - (h) Irrigation areas are adequately identified.

Note: The rate of effluent irrigation will be dependent on the soil water / nutrient capacity and net available annual average solar evaporation and evapotranspiration rates for the region.

- G4** The quality of treated sewage effluent released to land must not exceed the limits specified in **Schedule G – Table G2 (Sewage Effluent Contaminant Release Limits)** for each quality characteristic.
- G5** The release of treated sewage effluent to land must not cause spray drift or over spray beyond the nominated irrigation area specified in **Schedule G – Table G1 (Sewage Treatment Plant and Effluent Disposal)**.
- G6** When circumstances prevent the irrigation of treated sewage effluent to land, treated effluent must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.
- G7** Solids that accumulate in the sewage treatment facility are to be removed by a licenced regulated waste transporter.
- G8** A minimum area of 576m² of land, excluding any necessary buffer zones, must be used for the irrigation of treated sewage effluent, with application not exceeding a maximum rate of 5mm/day.
- G9** The daily volume of treated sewage effluent released to land and the application rate must be measured, and records kept in accordance with condition A4.
- G10** Ponding must not occur within the nominated irrigation area specified in **Schedule G – Table G1 (Sewage Treatment Plant and Effluent Disposal)**.
- G11** The release of treated sewage effluent to land must not cause run off beyond the nominated irrigation area specified in **Schedule G – Table G1 (Sewage Treatment Plant and Effluent Disposal)**.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Waste Management

- H1** By 8 January 2027, a waste management program must be developed, implemented and maintained for the activity at the licenced place. The waste management program must be regularly reviewed and updated at intervals of no greater than five (5) years. The program must include:
- (a) A description of the activity that may generate waste;
 - (b) Waste management control strategies, including:
 - a. Recording of the types and amounts of wastes generated by the mining activity;
 - b. Segregation of the wastes;
 - c. Storage of the wastes;
 - d. Transport of the wastes; and
 - e. Monitoring and reporting matters concerning the waste.
 - (c) The hazard characteristics of the wastes generated including disposal procedures for regulated wastes;
 - (d) A program for reusing, recycling or disposing of all wastes;
 - (e) How the waste will be dealt with in accordance with the waste and resource management hierarchy, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices in the waste management hierarchy (i.e. avoidance, reuse, recycling, energy recovery, disposal);
 - (f) Procedures for identifying and implementing opportunities to minimise the amount of waste generated, promote efficiency in the use of resources and improve the waste management practices employed;
 - (g) Procedures for dealing with accidents, spills, and other incidents that may impact on waste management;
 - (h) Details of any accredited management system employed, or planned to be employed, to deal with the waste;
 - (i) How often the performance of the waste management practices will be assessed;
 - (j) The indicators or other criteria on which the performance of the waste management practices will be assessed;
 - (k) Staff training and induction to the waste management program.

Waste Disposal

- H2** All waste generated from the activities must be disposed of at an off-site facility lawfully authorised to accept such waste, except for waste rock generated at the licenced place, which must be disposed of in the waste rock dumps specified in **Schedule A – Table A1 (Authorised Disturbance)**.
- H3** 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 at the licenced place.

Regulated Waste

- H4** Where regulated waste is removed from the licensed place, the holder of this environmental authority must ensure that:
- (a) The removal and transport of such wastes is carried out by a licensed operator; and
 - (b) Records are kept of the following:
 - a. The date, quantity and type of waste removed; and

- b. Name of the regulated waste transporters that removed the waste; and
- c. The intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the *Environmental Protection Act 1994* or any other law for regulated waste will be deemed to satisfy this environmental authority condition.

- H5** Regulated waste generated by the activities can be temporarily stored at the licenced place prior to removal, provided the storage period does not exceed six (6) months and the waste is stored in a manner that minimises the risk of fire and prevents contamination of land or waters.

Waste Rock Management Plan

- H6** By 8 January 2027, the holder of this environmental authority must develop and implement a waste rock management plan, which must be reviewed and update at intervals not exceeding **five (5) years**.
- H7** The waste rock management plan must be independently certified by an appropriately qualified person with a minimum of **ten (10) years** of demonstrated expertise in the design of waste rock dumps.
- H8** The waste rock management plan required by **Condition H6** must include:
- (a) a detailed design of the waste rock dumps;
 - (b) characterisation of the waste rock to predict the quality of runoff and seepage generated, including salinity, acidity, alkalinity, dissolved metals, metalloids and non-metallic inorganic substances;
 - (c) a program of progressive sampling to validate selective handling techniques, and disposal strategies;
 - (d) selective handling techniques to ensure placement, disposal of waste rock is according to characterisation results, and disposal strategies; and
 - (e) geochemical kinetic testing to determine oxidation rates, potential reaction products and the effectiveness of control strategies for acid, neutral and/or saline mine drainage;
 - (f) procedures for recording waste rock characterisation, handling, placement and disposal activities, including contingency planning for the management of acid, neutral and/or saline mine drainage;
 - (g) a materials balance and disposal plan demonstrating how waste rock will be selectively placed and managed to minimise the generation of acid, neutral and/or saline mine drainage;
 - (h) a sampling program to verify encapsulation and/or placement of potentially acid forming waste rock and waste rock that has a potential to generate neutral and/or saline mine drainage; and
 - (i) the frequency and methodology for assessing the performance of the plan.
- H9** The holder of this environmental authority must maintain records in accordance with the procedures required by **Condition H8(g)**.

END OF CONDITIONS FOR SCHEDULE H

Schedule I – Land

General

- I1** Unless authorised by this environmental authority, contaminants that will or may cause environmental harm must not be directly or indirectly released to land.
- I2** Any spillages of wastes, contaminants or other materials must be cleaned up as soon as reasonable and practicable. Such spillages must be cleaned up using methods that minimise the impact of the release of wastes, contaminants or materials to land, except where the relevant Material Safety Data Sheet (MSDS) specify otherwise.

Chemicals and Flammable or Combustible Liquids

- I3** All explosives, hazardous chemicals, corrosive substances, toxic substances, gases, flammable or combustible liquids and dangerous goods must be stored and handled in accordance with the current, relevant Australian Standard where such is applicable.
- I4** Notwithstanding the requirements of any applicable Australian Standard, any liquids stored on the licenced place that have the potential to cause environmental harm must be stored in and serviced by an effective containment system that is impervious to the materials stored and managed to prevent the release of liquid to waters or land.
- I5** Where no relevant Australian Standard is available, the following must be applied:
- (a) Storage tanks must be bunded such that the capacity and construction of the bund is sufficient to contain at least 110% of a single storage tank or 100% of the largest storage tank plus 10% of the second largest storage tank in multiple storage areas; and
 - (b) Drum storages must be bunded such that the capacity and construction of the bund is sufficient to contain at least 25% of the maximum design storage volume within the bund.
- I6** All containment systems must be designed to minimise rainfall collection within the system.
- I7** Flammable and combustible liquids, including petroleum products and associated piping and infrastructure, must be stored and handled in accordance with the latest edition of Australian Standard 1940 — The Storage and Handling of Flammable and Combustible Liquids.
- I8** The environmental authority holder must take all reasonable actions to minimise the potential for contamination of land by hazardous contaminants.

Topsoil

- I9** Topsoil and subsoil must be stripped to the depth determined by soil surveys to ensure the preservation of usable soil resources for rehabilitation.
- I10** Topsoil and subsoil stockpiles must be managed to ensure stability. Measures must include:
- (a) Vegetating stockpiles to prevent erosion;
 - (b) Ensuring stockpiles do not exceed a height of 2 metres;
 - (c) Ensuring stockpiles are not located within 40 metres of any watercourse to minimise the risk of erosion and sedimentation; and
 - (d) Reusing stockpiles as soon as possible.
- I11** A topsoil inventory which identifies the topsoil requirements for the activities and the availability of suitable topsoil on the licenced place must be kept and made available to the administering authority on request.

Vegetation Clearing

- I12** A qualified spotter/catcher is to be engaged to work ahead of site clearing works at the commencement of vegetation clearing to ensure the protection of species that may be of conservation significance.

Note: This Environmental Authority does not authorise the taking of protected animals or the tampering with an animal breeding place that is being used by a protected animal to incubate or rear the animal's offspring.

- I13** Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014*.
- I14** Records demonstrating that each impact to a prescribed environmental matter 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.

END OF CONDITIONS FOR SCHEDULE I

Schedule J – Definitions

Key terms and/or phrases used in this document are defined in this section. Where a word or phrase in this document is defined in this schedule, it has its corresponding meaning. Where a word or phrase in this document is not defined in this schedule, it has the meaning given to it in (in order of priority):

- the *Environmental Protection Act 1994*, its regulations or its environmental protection policies;
- the *Water Act 2000*, the *Environmental Offsets Act 2014* or the *Mineral Resources Act 1989* or associated regulations;
- the *Acts Interpretation Act 1954*;
- the Macquarie Dictionary (taking account of the context in which the word or phrase is used in this document).

“acid rock drainage (ARD)” means any contaminated release emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of the mining activity.

“administering authority” means the Department of Environment and Heritage Protection (formally Department of Environment and Resource Management) or its successor.

“affected land” means land on which an event has caused or threatens serious or material environmental harm.

“affected person” is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

“air blast overpressure” means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak air blast overpressure measured in decibels linear (dBL).

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“Annual Exceedance Probability” or “AEP” the probability that at least one event in excess of a particular magnitude will occur in any given year.

“ANZECC 2000” means Australian and New Zealand Environment Conservation Council Marine and Freshwater Quality Guidelines.

“ANZG 2018” means the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Water Quality Guidelines) revised in 2018. Since 2018, the Water Quality Guidelines are presented in an interactive online platform at “www.waterquality.gov.au/guidelines”. All default guideline values (DGVs) published on this interactive resource are referred to as ANZG (2018) irrespective of their official publication date. Some guidelines in ANZG (2018) still refer to ANZECC (2000). These are considered ANZG (2018).

“appropriately qualified person” means a person who has professional qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

“assessed” and **“assessment”** by a suitably qualified and experienced person in relation to a consequence assessment of a structure, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment:

- (a) exactly what has been assessed and the precise nature of that determination;
- (b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- (c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- (d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

“associated works” in relation to a dam, means:

- (a) operations of any kind and all things constructed, erected or installed for that dam; and
- (b) any land used for those operations.

“Environmental Authority” means Environmental Authority (mining activities) under the *Environmental Protection Act 1994*.

“background”, with reference to the water schedule means the average of samples taken prior to the commencement of mining from the same waterway that the current sample has been taken.

“blasting” means the use of explosive materials to fracture:

- (a) rock, coal and other minerals for later recovery; or
- (b) structural components or other items to facilitate removal from a site or for reuse.

“certification”, “certifying” or “certified” means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* including design plans, ‘as constructed’ drawings and specifications, construction, operation or annual report regarding regulated structures undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQ’s (ID: 1.4(2A)).

“chemical” means:

- (a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth), or
- (b) a dangerous goods under the *Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council*, or
- (c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*, or
- (d) a drug or poison in the *Standard for the Uniform Scheduling of Drugs and Poisons* prepared by the Australian Health Ministers’ Advisory Council and published by the Commonwealth, or
- (e) any substance used as, or intended for use as:
 - a. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product, or
 - b. a surface active agent, including, for example, soap or related detergent, or
 - c. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide, or
 - d. a fertiliser for agricultural, horticultural or garden use, or
 - e. a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater, or
 - f. manufacture of plastic or synthetic rubber.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“construction” or “constructed” in relation to a dam/structure includes building a new dam/structure and/or modifying or lifting an existing dam/structure, but does not include investigations and testing necessary for purposes of preparing a design plan.

“consequence” in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.

“consequence category” means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.

“contaminated” means the substance has come into contact with a contaminant.

“contaminant” A contaminant can be:

- (a) a gas, liquid or solid; or
- (b) an odour; or
- (c) an organism (whether alive or dead), including a virus; or
- (d) energy, including noise, heat, radioactivity and electromagnetic radiation; or
- (e) a combination of contaminants.

“design plan” with respect to a regulated structure is a document setting out how all consequence scenarios are addressed in the planned design and operation of a regulated structure. The documents must include all investigation and design reports, plans and specifications sufficient to hand to a contractor for construction, and planned decommissioning and rehabilitation outcomes; so as to address all hazard scenarios that would be identified by a properly conducted consequence assessment for the structure. Documentation must be such that a ‘suitable qualified and experienced person’ could conduct an independent review without seeking further information from the designer.

“Design Storage Allowance” or “DSA” means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority, that must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.

“designer” for the purposes of a regulated structure, means the certifier of the design plan for the regulated structure.

“disturbance” of land includes:

- (a) compacting, removing, covering, exposing or stockpiling of earth
- (b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion
- (c) carrying out mining within a watercourse, waterway, wetland or lake
- (d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls
- (e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased
- (f) releasing of contaminants into the soil, or underlying geological strata.

However, the following areas are not included when calculating areas of ‘disturbance’:

- (a) areas off lease (e.g. roads or tracks which provide access to the mining lease)
- (b) areas previously disturbed which have achieved the rehabilitation outcome
- (c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)
- (d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner
- (e) disturbance that pre-existed the grant of the tenure.

“domestic waste” means waste, other than domestic clean-up waste, green waste, recyclable waste, interceptor waste

or waste released to a sewer, produced as a result of the ordinary use or occupation of domestic premises.

“dwelling” means any of the following structures or vehicles that is principally used as a residence:

- (a) a house, unit, motel, nursing home or other building or part of a building; or
- (b) a caravan, mobile home or other vehicle or structure on land; or
- (c) a water craft in a marina.

“EC” means electrical conductivity.

“effluent” treated waste water released from sewage treatment plants.

“emergency action plan” means documentation forming part of the operational plan held by the holder of this Environmental Authority or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually update contact details that are part of the plan, and to comprehensively review the plan at least every five years.

“environmentally relevant activity” means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 of the *Environmental Protection Regulation 2019*.

“general waste” means waste other than regulated waste.

“holder of this Environmental Authority” means any person who is the holder of, or is acting under, that Environmental Authority.

“infrastructure” means water storage dams, roads and tracks, buildings and other structures built for the purpose and duration of the conduct of the environmentally relevant activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams, waste dumps, voids, or stockpiles and assets, that have been decommissioned, rehabilitated, and lawfully recognised as being subject to subsequent transfer with ownership of land.

“land” in the “land schedule” of this document means land excluding waters and the atmosphere, that is, the term has a different meaning from the term as defined in the *Environmental Protection Act 1994*. For the purposes of the *Acts Interpretation Act 1954*, it is expressly noted that the term ‘land’ in this environmental authority relates to physical land and not to interests in land.

“land use” means the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

“licensed place” means the mining activities carried out at the mining tenements detailed on page 1 of this Environmental Authority.

“m” means metres.

“Mandatory Reporting Level” or **“MRL”** means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority.

“manual” means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)* published by the administering authority, as amended from time to time.

“measures” includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping, and containment systems.

“mg/L” means milligrams per litre.

“mineral” means a substance which normally occurs naturally as part of the earth’s crust or is dissolved or suspended in water within or upon the earth’s crust and includes a substance which may be extracted from such a substance, and includes:

- (a) clay if mined for use for its ceramic properties, kaolin and bentonite;
- (b) foundry sand;
- (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from;
- (d) limestone if mined for use for its chemical properties;
- (e) marble;
- (f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
- (g) peat;
- (h) salt including brine;
- (i) shale from which mineral oil may be extracted or produced;
- (j) silica, including silica sand, if mined for use for its chemical properties;
- (k) rock mined in block or slab form for building or monumental purposes;

But does *not* include:

- (a) living matter;
- (b) petroleum within the meaning of the *Petroleum Act 1923*;
- (c) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
- (d) water.

“minimise” is to reduce to the smallest possible amount or degree.

“modification” or **“modifying”** (see definition of “construction”)

“natural flow” means the flow of water through waters caused by nature.

“non-polluting” means having no adverse impacts upon the receiving environment.

“noxious” means harmful or injurious to health or physical wellbeing.

“offensive” means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

“operational plan” for a structure means a document that includes:

- (a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA; and
- (b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

“peak particle velocity (ppv)” means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mm/s).

“prescribed environmental matters” has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.

“process water” means water used or produced during the mineral development activities.

“progressive rehabilitation” means rehabilitation (defined below) undertaken progressively or a staged approach to

rehabilitation as mining operations are ongoing.

“receiving environment” means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this Environmental Authority.

“receiving waters” means all groundwater and surface water that are not disturbed areas authorised by this Environmental Authority.

“reference site” (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

“Register of Regulated Structures” includes:

- (a) date of entry in the register;
- (b) name of the structure, its purpose and intended/actual contents;
- (c) the consequence category of the dam as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*;
- (d) dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) for the regulated dam or structure, other than in relation to any levees –
 - i. the dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam
 - ii. coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
 - iii. dam crest volume (mega litres);
 - iv. spillway crest level (metres AHD).
 - v. maximum operating level (metres AHD);
 - vi. storage rating table of stored volume versus level (metres AHD);
 - vii. design storage allowance (mega litres) and associated level of the dam (metres AHD);
 - viii. mandatory reporting level (metres AHD);
- (g) the design plan title and reference relevant to the dam;
- (h) the date construction was certified as compliant with the design plan;
- (i) the name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- (j) details of the composition and construction of any liner;
- (k) the system for the detection of any leakage through the floor and sides of the dam;
- (l) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- (m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- (n) dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

“regulated dam” means any dam in the significant or high hazard category as assessed using the *“Manual for*

Assessing Hazard Categories and Hydraulic Performance of Dams published by the administering authority.

“regulated structure” means any structure in the significant or high consequence category as assessed using the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* published by the administering authority. A regulated structure does not include:

- a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;
- a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;
- a flare pit.

“regulated waste” means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 2019* (whether or not it has been treated or immobilised), and includes:

- a) for an element – any chemical compound containing the element; and
- b) anything that has contained the waste.

“rehabilitation” the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this Environmental Authority and, where relevant, includes remediation of contaminated land.

“representative” means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activity.

“RL” means reduced level, relative to mean sea level as distinct from depths to water.

“saline mine drainage” The movement of waters, contaminated with salt(s), as a result of the mining activity.

“sensitive place” includes:

- (a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- (b) a motel, hotel or hostel; or
- (c) an educational institution; or
- (d) a medical centre or hospital; or
- (e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- (f) a public park or gardens.

“significant disturbance” – includes land;

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it;
 - (i) to a state required under the relevant Environmental Authority; or
 - (ii) if the Environmental Authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Some examples of disturbed land include:

- (a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- (b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation and topsoil)
- (c) areas where land use suitability or capability has been diminished;

- (d) areas within a watercourse, waterway, wetland or lake where the mining activity occur;
- (e) areas submerged by tailings or hazardous contaminant storage and dam/structure walls in all cases;
- (f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after the mining activity have ceased; or
- (g) areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- (a) areas off lease (e.g. roads or tracks which provide access to the mining lease);
- (b) areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- (c) by agreement with the administering authority, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- (d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the administering authority;
- (e) disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

“significant residual impact” has the meaning in section 8 *Environmental Offsets Act 2014*.

“spillway” means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

“spotter/catcher” services are a common requirement for most infrastructure and development projects across Queensland, where native vegetation is proposed to be cleared. The objective is to provide wildlife preservation efforts for significant species and general biodiversity during the disturbance of habitats associated with vegetation clearing. In order to achieve this it is imperative that Spotter Catchers are proficient in the handling of all wildlife species, understand the ecology of resident fauna and introduce a methodology that significantly limits interruption to machinery operators and fauna during the vegetation clearing process.

“stable” in relation to land, means land form dimensions are and will remain within tolerable limits now and in the foreseeable future. Issues to be properly considered in regard to whether or not the landform is stable include geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

“structure” means dam or levee.

“suitably qualified and experienced person” in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience

- for regulated structures that are dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design;
- for regulated structures that are levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

“the Act” means the *Environmental Protection Act 1994*.

“tolerable limits” means a range of parameters regarded as being sufficient to meet the objective of protecting relevant

environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

“**µS/cm**” means micro siemens per centimetre.

“**waste management hierarchy**” has the meaning given by the *Environmental Protection (Waste Management) Policy 2000*.

“**waste water**” means used water from the mining activity, process water or contaminated storm water.

“**water quality**” means the chemical, physical and biological condition of water.

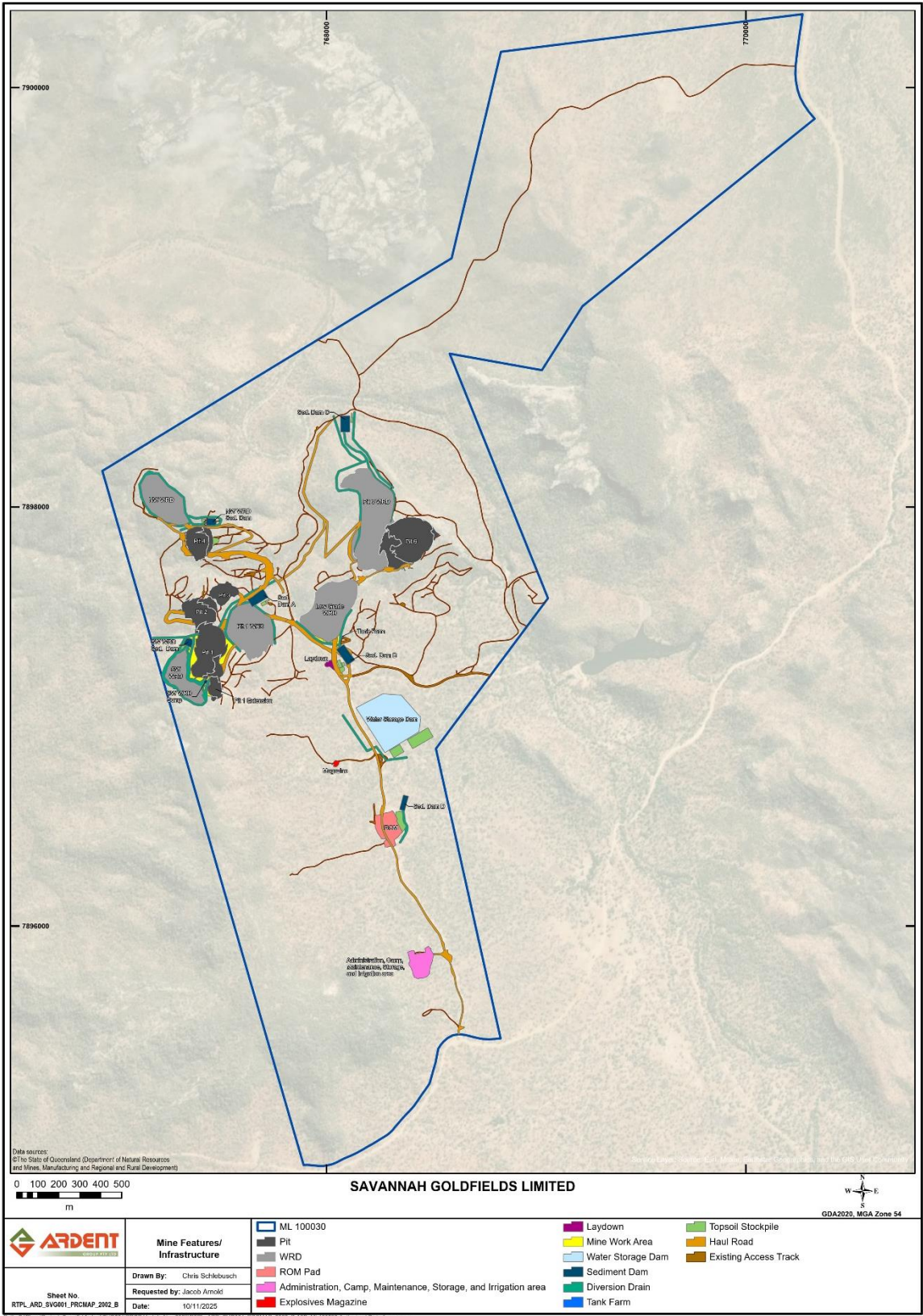
“**watercourse**” has the same meaning given in the *Water Act 2000*.

“**waters**” – includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

END OF DEFINITIONS FOR SCHEDULE J

Schedule K – Figures

Figure K1 (Authorised Disturbance)



END OF SCHEDULE K
END OF ENVIRONMENTAL AUTHORITY