Permit

Environmental Protection Act 1994

Environmental Authority EPML00899613

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

Environmental authority number: EPML00899613

Environmental authority takes effect on 15 May 2026.

The anniversary date of this environmental authority is 12 July each year.

Environmental authority holder

Name	Registered address
Eva Copper Mine Pty Ltd	Level 3, 12 Cribb Street MILTON QLD 4064

Environmentally relevant activity and location details

Environmentally relevant activities	Locations
Schedule 3 16 - Mining gold ore	ML90162, ML90163, ML90164, ML90165 and ML90166
Schedule 3 17 - Mining copper ore	
Ancillary 07 - Chemical manufacturing 3(d) - Manufacturing, in a year, a total of 200t or more of any of the following - explosives	
Ancillary 07 - Chemical Manufacturing, 5: Manufacturing, in a year, the following quantities of organic chemicals, (c) 10,000t to 100,000t.	
Ancillary 07 - Chemical Manufacturing, 6: Manufacturing, in a year, the following quantities of inorganic chemicals, (b) 1,000t to 10,000t.	
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 under subsection (1)(a)	
Ancillary 08 - Chemical Storage, 2: Storing 50t or more of chemicals of dangerous goods Class 6, division 6.1 under subsection (1)(b).	

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Environmentally relevant activities	Locations
Ancillary 08 - Chemical Storage 3 - Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	
Ancillary 14 - Electricity generation, 2: Generating electricity by using a fuel, other than gas, at a rated capacity of (a) 10 MW to 150 MW electrical	
Ancillary 15 - Fuel burning Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour.	
Ancillary 16 - Extractive and screening, 2(b) Extracting rock or other material more than 100,000 tonnes but not more than 1 million tonne in a year.	
Ancillary 31 - Mineral processing 2(b) - Processing, in a year, the following quantities of mineral products, other than coke - more than 100,000t	
Ancillary 33 - Crushing, milling, grinding or screening. Crushing, grinding, milling or screening more than 5000t of material in a year	
Ancillary 60 - Waste disposal 1(a) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b) - 50,000 – 100,000 t/yr less than 50,000t.	
Ancillary 62 - Resource recovery and transfer facility operation - 1(c) - Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 2 regulated waste.	
Ancillary 62 - Resource recovery and transfer facility operation - 1(d) - Operating a facility for receiving and sorting, dismantling, baling or temporarily storing category 1 regulated waste.	
Ancillary 63 - Sewage Treatment 1(b-i) - Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of more than 100 but not more than 1500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	

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).

Mobile and temporary activities

If you operate a mobile and temporary ERA, other than regulated waste transport, you are required to maintain a work diary. You must:

- use the approved form for a work diary (ESR/2015/1696);
- keep the work diary records for 2 years after the last entry;
- inform the administering authority within 7 days of the work diary being lost or stolen;
- record the information required in the work diary for each location within 1 day of leaving the location.

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.

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.

	15 May 2026
Signature	Date

Giles Bezzina

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

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

Location: ML90162, ML90163, ML90164, ML90165, ML90166.
Approximately 65km north-west of Cloncurry.

This Environmental Authority incorporates the following Schedules:

Schedule A	-	General
Schedule B	-	Air
Schedule C	-	Land and Rehabilitation
Schedule D	-	Regulated Structures
Schedule E	-	Waste Management
Schedule F	-	Noise
Schedule G	-	Water
Schedule H	-	Sewage Treatment
Schedule I	-	Definitions
Schedule J	-	Plans

The environmentally relevant activity(ies) conducted at the location as described above must be conducted in accordance with the following site-specific conditions of approval.

SCHEDULE A – GENERAL

Activity

(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) No more than 20 million tonnes of gold and copper ore is to be processed at the licensed place in a year.

(A3) In carrying out the mining activity the holder of this Environmental Authority must comply with Schedule A – Table 1 (Authorised Mining Activities).

Schedule A – Table 1 (Authorised Mining Activities)

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Coordinates (GDA2020 MGA zone 54)	
				Easting	Northing
Mining area	Little Eva Pit	ML90165	112	410716	7772013
	Turkey Creek Pit	ML90165	45	412430	7771536
	Bedford North Pit	ML90164	22	414992	7767735
	Bedford South Pit	ML90164	17	414972	7766212
	Lady Clayre Pits (four total)	ML90162	44	409780	7752577
	Blackard Pit	ML90164	142	412521	7765478
	Scanlan Pit	ML90162	44	412299	7754333
Waste Rock Dump	Little Eva WRD	ML90165	85	411662	7772520
	Bedford North WRD	ML90164	45	415558	7767270
	Bedford South WRD	ML90164	19	415329	7766234
	Lady Clayre	ML90162	49	410102	7753093
	Blackard West WRD	ML90164	55	411448	7766332
	Blackard South WRD	ML90164	188	412881	7763529
	Scanlan WRD	ML90162	88	412119	7755195
Processing area	Process Plant infrastructure area	ML90165	43	41167	7771166
	Concentrate Storage and Handling Shed			411767	7771185
	Temporary Concentrate Stockpile			411804	7771204
	Mine infrastructure area		8	412123	7770991
	Power plant infrastructure area		4	411407	7770736
Ore Stockpile	ROM Stockpile	ML90165	23	411621	7771593
	Little Eva and Turkey Creek LGO stockpile	ML90165	26	411834	7771681
	Blackard ROM stockpile	ML90164	28	411772	7765395
	Blackard LGO stockpile	ML90164	52	411220	7765523
	Scanlan and Lady Clayre ROM stockpile	ML90162	15	411340	7753966
Tailings Storage Facility (TSF)	TSF	ML90164	512	412843	7769353
		ML90165		412641	7770343
Clean and MAW drains	Clean and MAW drains	ML90162	145	412207	7762678
		ML90163		413228	7765140
		ML90164		411955	7754471
		ML90165		412667	7763059
				413094	7765796
				411756	7772040
				412765	7769381
				412255	7770406

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Coordinates (GDA2020 MGA zone 54)	
				Easting	Northing
MAW dams	Northern MAW Dam	ML90165	36	411204	7773048
	Blackard Northern MAW Dam	ML90164	30	411957	7766999
	Blackard Southern MAW Dam	ML90164	37	413247	7764438
	TSF MAW Dam	ML90165	14	411190	7770494
	Bedford MAW Dam	ML90164	15	415481	7766773
	Scanlan MAW Dam	ML90162	27	412456	7755166
	Lady Clayre MAW Dam	ML90162	14	410482	7752688
	Southern ROM Dam	ML90162	1	411588	7753947
Turkeys Nests	Northern MAW Dam Turkeys Nest	ML90165	0.6	411052	7772774
	Turkey Creek Pit Turkeys Nest	ML90165	0.5	412341	7772246
	Turkeys Nest 2 (Core Farm)	ML90165	0.5	413351	7770987
	Turkeys Nest 3 (TSF)	ML90165	0.5	413028	7770432
MAW release points	RP1 - Northern MAW Dam	ML90165	-	410837	7773142
	RP6 - Scanlan MAW Dam	ML90162	-	413509	7756518
	RP9 - Lady Clayre MAW Dam	ML90162	-	412466	7753519
Watercourse diversion	Cabbage Tree Creek, Blackard Creek and unnamed tributary of Blackard Creek Diversions and buffer land	ML90165	136	409421	7773689
				411166	7773689
				409421	7770126
				411166	7770126
	Scanlan Pit unnamed tributary diversion	ML90162	5	412101	7753814
Flood protection levee	Little Eva Pit Levee and buffer land	ML90165	63	409596	7773325
				411212	7773325
				409596	7770766
				411212	7770766
	Scanlan Pit Levee	ML90162	5.2	412322	7753993
	Lady Clayre Pit Levee	ML90162	1	409579	7752253
Flood protection bund	Turkey Creek Bund	ML90165	0.3	412572	7771935
	Blackard Bund 1	ML90164	0.7	412378	7764753
	Blackard Bund 2	ML90164	0.9	413232	7764871
Process Area water storages	Process Water Pond	ML90165	1.5	411559	7770764
	Raw Water Pond	ML90165	1.3	411752	7770852
	Site Runoff Pond	ML90165	1.5	411563	7770860
Sediment retention basin	South-east basin (Accommodation Village)	ML90166	1	417241	7769353
	North-east basin (Accommodation Village)	ML90166	1	417295	7769638
Clean water dams	Blackard Western Clean Water Dam	ML90165	5	412281	7764679
Water production bores	Pump and transfer stations	ML90164 ML90165	8	408955 408120	7772045 7773480
	NBPB001			410931	7774960
	NBPB002			410834	7775449
	NBPB003			410426	7775024
	NBPB004			410267	7774894
	NBPB005			410829	7774558
	WEB01PB			409798	7774328
	WEB02PB			406383	7774557
	WEB05PB			409110	7768894
	WEB05SPB			409110	7768894
	WEB06PB			408534	7773080

Mine Domain	Mine Feature		Tenure	Maximum Area of Disturbance (ha)	Coordinates (GDA2020 MGA zone 54)	
					Easting	Northing
	WEB07PB				409366	7772456
	WEB08PB				408200	7771607
	WEB09PB				407753	7773742
Solar Farm	Solar farm and BESS		ML90165	120	407179	7772808
	Solar farm access and powerline easement		ML90165	14	407894 411480	7773193 7770698
Ancillary Infrastructure	Access and haul roads		ML90162 ML90163 ML90164 ML90165 ML90166	287	-	-
	Magazine and explosives facility		ML90165	1	413633	7772239
	Accommodation Village		ML90166	14.5	417150	7769500
	Powerlines		ML90162 ML90163 ML90164 ML90165 ML90166	59	-	-
	Integrated waste management facility		To be advised	10	To be advised at least 2 months prior to construction.	To be advised at least 2 months prior to construction.
Laydown area	Tailings Storage Facility and Process Plant Laydown		ML90165	5.6	411787	7770673
	Little Eva Laydown		ML90165	25.2	410487	7772146
	Little Eva Access Laydown		ML90165	1.9	411184	7771782
	Turkey Creek Laydown		ML90165	5.6	412265	7772415
	Bedford laydown		ML90164	5.1	415026	7766700
Sewage Treatment Plant (STP)	STP		ML90166	1	407179	7772808
	STP disposal area 1		ML90166	0.6	407894	7773193
	STP disposal area 2		ML90166	1.5	411480	7770698
Material borrow pit	Concrete aggregate borrow pit area		ML90166	4	416054	7771551
	Construction material borrow pit area		ML90166	4	416793	7770664
	Clay material borrow pit area (North)		ML90165	91	408698	7772822
	Clay material borrow pit area (South)		ML90165	59	407392	7771357
Topsoil Stockpiles	Little Eva and Turkey Creek Pit mining area	TS010	ML90165	29	411061	7770976
		TS011			412711	7771406
		TS028			411037	7772294
	Mine Access Road	TS012	ML90164	0.22	415382	7769911
	Blackard Pit mining area	TS026	ML90163 ML90164	103	410916	7765314
		TS029			411216	7766760
		TS031			411390	7767457
		TS034			411938	7763135
		TS035			412195	7766764

Mine Domain	Mine Feature		Tenure	Maximum Area of Disturbance (ha)	Coordinates (GDA2020 MGA zone 54)	
					Easting	Northing
		TS037			412599	7762281
		TS041			413086	7764809
		TS046			413470	7764993
	Bedford Pit mining area	TS049	ML90164	32	414780	7767578
		TS050			414955	7767067
		TS051			415015	7766591
		TS052			415109	7765889
		TS053			415437	7766527
		TS054			415503	7766203
	Scanlan Pit mining area	TS039	ML90162	23	412856	7756180
	Lady Clayre Pit mining area	TS021	ML90162	8	410170	7752873
		TS025			410730	7752986
	Tailings Storage Facility	TS027	ML90164 ML90165	40	410947	7769492
		TS030			411342	7769678
		TS033			411893	7770741
		TS036			412314	7768595
		TS043			413108	7770656
		TS044			413164	7768553
		TS048			414499	7769462
	Solar farm area	TS013	ML90165	30	407451	7772200
	Clay borrow pit area	TS014	ML90165	25	407803	7771213
		TS015			409205	7772062
	Ancillary infrastructure area	TS006	ML90163 ML90164 ML90165	12	417206	7770584
		TS007			417099	7770139
		TS008			417079	7769717
		TS016			409661	7774415
		TS024			410597	7769501
		TS032			411520	7774031
		TS038			412736	7760949
		TS040			413033	7758911
		TS042			413107	7767679
		TS045			413207	7772980
		TS047			413580	7772136
Exploration	Exploration		ML90162 ML90163 ML90164 ML90165 ML90166	30	-	-

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) Except where specified in another condition of this environmental authority, 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 unusual observations such as odour or colouration).

Risk Management

(A7) 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 prior to commencement of mining activities.

Emergency Response/Contingency

(A8) The holder of this Environmental Authority must develop and implement an emergency response/ contingency plan to respond to emergency events and incidents prior to commencement of mining activities. 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 conditions of this Environmental Authority;

(i) procedures for accessing monitoring points during emergency events or incidents; and

(j) procedures to notify any potentially impacted stakeholder who may be affected by the emergency event or incident.

Notification

(A9) The holder of this Environmental Authority must notify the administering authority by telephone and email as soon as practicable but within twenty-four (24) hours, after becoming aware of any incident, exceedance or release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this Environmental Authority.

(A10) The notification in condition (A9) must include, but not be limited to, the following:

(a) the Environmental Authority number and name of the holder;

(b) the name and telephone number of the designated contact person;

(c) the location of the incident, exceedance or release;

(d) the date and time of the incident, exceedance or release;

(e) the time the holder of this Environmental Authority became aware of the incident, exceedance or release;

(f) where known:

(i) the estimated quantity and type of substances involved in the incident, exceedance or release;

(ii) the actual or potential cause of the incident, exceedance or release;

(g) a description of the nature and effects of the incident, exceedance or release including environmental harm and/or nuisance caused, threatened, or suspected to be caused by the incident, exceedance or release.

(h) any sampling conducted or proposed, relevant to the incident, exceedance or release;

(i) immediate actions taken to prevent and/or mitigate any further environmental harm and/or environmental nuisance caused by the incident, exceedance or release;

(j) what notification of stakeholders who may be affected by the incident, exceedance or release has occurred/is being undertaken.

(A11) The holder of this Environmental Authority must notify the occupiers or registered owners of affected land and any other potentially impacted stakeholder as soon as reasonably practicable after becoming aware of any incident, exceedance or release that has the potential to impact on environmental values or breaches any condition of this Environmental Authority concerning releases of contaminants to the environment.

(A12) Within ten (10) business days following the initial notification of an incident, emergency, 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 by an appropriately qualified person of any samples taken and analysed;

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

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

Complaints

(A13) 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.

(A14) The holder of this Environmental Authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of 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.

Community

(A15) The holder of this Environmental Authority must establish, promote and maintain easily accessible lines of communication between residents, stakeholders and landowners reasonably expected to be affected by the mining activity to ensure that environmental impacts are identified and managed. This must begin at least six (6) months prior to the commencement of mining activities, and include but not be limited to the following:

(a) regular meetings with all relevant stakeholders at intervals of not more than six (6) months; and

(b) the establishment of a consultative committee with representation of all relevant stakeholders that meet at regular intervals as determined by the committee.

Third Party Reporting

(A16) The holder of this environmental authority must:

(a) within one (1) year of the commencement of mining activities, obtain from an appropriately qualified person a report on compliance with the conditions of this Environmental Authority;

(b) obtain further such reports at regular intervals, not exceeding three (3) yearly intervals, from the completion of the report referred to above; and

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

Exploration

(A17) All exploration activities carried out at the licensed 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 (ESR/2016/1985).*

(A18) Where a condition of this Environmental Authority refers to a matter addressed in the *Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects* (ESR/2016/1985), the condition of the Environmental Authority prevails.

Transition to New Standards

(A19) 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 administrating 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

General

(B1) Unless authorised by this Environmental Authority, the release of noxious or offensive odour, dust or any other airborne contaminant resulting from the mining activity must not cause environmental harm.

Bulk Material Handling Management

(B2) The holder of this Environmental Authority must ensure that vehicles used for transporting bulk materials on or from the licensed place have appropriate load preparation to prevent the spillage and/or loss of particulate matter and/or windblown dust during transport.

Air Quality – Dust Deposition

(B3) The holder of this Environmental Authority must conduct the mining activity in such a manner so as not to cause any exceedance of the limits identified in Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits) at or beyond the boundaries of the licensed place.

Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits)

Air Quality Indicator	Measurement Period	Trigger Level[1]	Limits
Arsenic and its compounds as arsenic[4]	Annual average	4 µg/m^2/day	-
Cadmium and its compounds as cadmium[4]	Annual average	2 µg/m^2/day	-
Copper and its compounds as copper[4]	Annual average	330 µg/m^2/day[6]	-
Total insoluble matter (insoluble analysis and particulate matter deposition rate)[3]	Monthly average	-	120[6] mg/m^2/day[7]

1. Trigger levels based on First General Administrative Regulation Pertaining to the Federal Emission Control Act (Technical Instructions on Air Quality Control – TA Luft) (Table 6 page 29).
3. 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.*
4. Metals analysis is to be carried out in accordance with a methodology, sufficient to produce representative results capable of comparison against the respective limits and trigger levels.
5. Determined based on TA Luft lead deposition guidelines and the HIL A soil investigation levels from NEPC (1999) Table 5-A
6. Based on the New Zealand Ministry for Environment Good Practice Guide for Assessing and Managing for Environmental Effects of Dust Emissions (Table 7.1)
7. The dust deposition limit is calculated over a nominal month as per AS/NZS3580.10.1 of 2003 (or more recent editions).

(B4) In the event of monitoring results showing an exceedance of any of the trigger levels specified in Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits) at or beyond the boundaries of the licensed place, the holder of this Environmental Authority must:

(a) complete an investigation to identify the cause of the exceedance;

(b) if the investigation shows that the exceedance is not attributable to the mining activity then no further action is required and this must be advised to the administering authority within one (1) month; or

(c) if the investigation shows that the exceedance is attributable to the mining activity provide a written report to the administering authority within one (1) month of the date of the monitoring results showing an exceedance, outlining:

(i) details of the investigations carried out;

(ii) details of the environmental impacts observed; and

(iii) actions taken to prevent environmental harm.

(B5) If monitoring indicates the limits in Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits) have been exceeded at a sensitive place or commercial place as a result of a mining activity, then the holder of this Environmental Authority must immediately implement dust abatement measures to ensure that dust emissions generated by the mining activity no longer exceed the levels specified in Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits).

(B6) Prior to the commencement of mining activities, the holder of this Environmental Authority must develop and implement a dust deposition monitoring program to monitor the deposition of contaminants in dust generated by the mining activity in the receiving environment and the actual and potential environmental impacts as a result of that deposition. At a minimum, the program must include:

(a) a description of the sources, locations and predicted quantity of contaminants in air emissions generated by each mining activity carried out at the licensed place;

(b) collection of contaminants in dust deposition samples specified in Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits) at the monitoring locations and at the frequency specified in Schedule B – Table 2 (Air Quality Monitoring Program – Dust Deposition) and Schedule J – Plan 2 – Air Quality Monitoring Locations;

(c) annual assessment of the environmental harm caused by dust deposition on the receiving environment and performance against air quality trigger levels and limits specified in Schedule B – Table 1 (Dust Deposition Trigger Levels and Limits); and

(d) a sufficient number of impact monitoring and reference locations, constructed in accordance with Australian Standard 3580.1.1:2007 *Methods for the sampling and analysis of ambient air – Guide to siting air monitoring equipment*, to enable scientifically justifiable conclusions on the level of impact from mining activity.

Schedule B – Table 2 (Air Quality Monitoring Program – Dust Deposition)

Monitoring Location Description	Coordinates (GDA2020 MGA zone 54)		Monitoring Frequency
	Easting	Northing	
AQ1 South of Lady Clayre	411201	7752961	Monthly
AQ3 Roseby Homestead	413635	7754700	
AQ7 Village/Access road[1]	416940	7768915	
AQ8 Access road[1]	416906	7770938	
AQ9 Bedford[1]	415830	7764580	

1. Monitoring sites must comply with Australian Standard 3580.1.1:2007 *Methods for the sampling and analysis of ambient air – Guide to siting air monitoring equipment.*

(B7) Prior to implementation, the dust deposition monitoring program required by condition (B6) must be certified that it meets the requirements of this Environmental Authority by an appropriately qualified person.

(B8) A copy of the dust deposition monitoring program required by condition (B6) must be provided to the administering authority on request.

Air Quality – Particulate Matter

(B9) The mining activity must not cause particulate matter to exceed the following levels when measured at any sensitive place or commercial place:

a) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM_{10}) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time and 25 $\mu g/m^3$ as an annual average, when monitored in accordance with the most recent version of either:

i. Australian standard AS3580.9.8 – *Methods for sampling and analysis of ambient air: Determination of suspended particulate matter- PM10 continuous direct mass method using tapered element oscillating microbalance analyser;*

ii. Australian standard AS3580.9.11 *Methods for sampling and analysis of ambient air, Method 9.11: Determination of suspended particulate matter — PM10 beta attenuation monitors*; or

iii. An alternate method of monitoring PM10 which complies with the performance specifications detailed in other Australian Standards for PM10 and agreed to in writing by the administering authority.

Air Quality Monitoring Program

(B10) At least twelve months prior to the commencement of mining activities at Scanlan and Lady Clayre, the holder of this Environmental Authority must develop and implement an air quality monitoring program for the air quality indicators specified in condition (B3) at the monitoring locations and at the frequency specified in Schedule B – Table 3 (Air Quality Monitoring Program – Particulate Matter) and Schedule J – Plan 2 – Air Quality Monitoring Locations.

Schedule B – Table 3 (Air Quality Monitoring Program – Particulate Matter)

Monitoring Location Description	Coordinates (GDA2020 MGA zone 54)		Monitoring Frequency
	Easting	Northing	
Compliance			
AQ3 - Roseby Homestead[1]	413635	7754700	PM_{10}: continuous
Reference			
AQ1 South of Lady Clayre[1]	411201	7752961	

1) Monitoring sites must comply with Australian Standard 3580.1.1:2007 Methods for the sampling and analysis of ambient air – Guide to siting air monitoring equipment.

Trigger Action Response Plan (TARP)

(B11) As part of the air quality monitoring program required by condition (B10), the holder of this Environmental Authority must develop a Trigger Action Response Plan (TARP). The TARP must include, but is not limited to:

(a) Identification of proactive and reactive trigger levels for PM_{10} concentrations, including:

i. Proactive triggers to identify and mitigate potential air quality impacts before they occur.

ii. Reactive triggers to respond to exceedances of PM_{10} concentration thresholds.

(b) A description of the actions to be taken when trigger levels are exceeded, including the alteration, reduction, or cessation of project activities to minimise adverse air quality impacts.

(c) Procedures for reviewing and adapting project activities based on air quality monitoring data and the effectiveness of implemented actions.

(d) A mechanism for regular review and updating of the TARP to ensure its ongoing effectiveness and alignment with best practice air quality management.

(e) How detailed records of air quality monitoring data, trigger exceedances, and actions taken in response to exceedances will be maintained.

(B12) Prior to implementation, the air quality monitoring program required by condition (B10) and the associated TARP required by condition (B11) must be certified that they meet the requirements of this Environmental Authority by an appropriately qualified person.

(B13) For the duration that the air quality monitoring program required by condition (B10) is in effect, the holder of this Environmental Authority must provide by 1 June each year, a report to the administering authority, detailing:

(a) Results of the air quality monitoring.

(b) Instances of trigger exceedances and the corresponding actions taken.

(c) Any updates or amendments made to the air quality monitoring program.

Air Quality Monitoring Requirements

(B14) Samples taken for air quality monitoring specified in this Environmental Authority must be collected and analysed in accordance with the requirements of the administering authority's latest edition of the *Air Quality Sampling Manual*, or more recent editions or supplements to that document as are published by the administering authority, unless otherwise agreed by the administering authority in writing.

Concentrate Management

(B15) Storage of mineral concentrate must only occur in defined areas and for the purposes specified in Schedule B – Table 4 (Mineral Concentrate Storage Areas).

Schedule B – Table 4 (Mineral Concentrate Storage Areas)

Name	Coordinates (GDA2020 MGA zone 54)		Purpose
	Easting	Northing	
Concentrate storage and handling shed	411767	7771185	Storage of mineral concentrate and load out for transport offsite within a fully enclosed shed as per Condition B16.
Temporary concentrate stockpile	411804	7771204	Temporary and emergency storage area for mineral concentrate. Footprint 40 x 10 m.

(B16) Buildings or structures used for the storage, stockpiling and loading of mineral concentrate must incorporate the following dust control measures as a minimum:

(a) all necessary openings and vents in the buildings or structures (other than doorways and access ways) must be covered with filter media or other equivalent dust control measures;

(b) cladding of the buildings or structures must be securely affixed and free of any unnecessary holes;

(c) all doorways and access ways in the buildings or structures must be fitted with doors;

(d) all doors in the buildings or structures must remain closed except when being used for access or egress;

(e) all doors, doorways and access ways in the buildings or structures must be maintained in such a condition that doors, when closed, provide a seal against the release of mineral concentrate to the receiving environment;

(f) transfer of mineral concentrate to vehicles and containers must be carried out in a manner that minimises the likelihood of any release of mineral concentrate to the atmosphere and waters; and

(g) transfer of mineral concentrate along conveyor belts must be designed and operated in a manner that prevents the release of mineral concentrate to the atmosphere and waters.

(B17) The interior of all mineral concentrate storage, stockpiling and loading buildings or structures must be maintained under negative air pressure sufficient to prevent release of mineral concentrate from the buildings or structures.

(B18) Condition (B17) does not apply if the holder of this Environmental Authority can demonstrate to the satisfaction of the administering authority that the requirements of condition (B16) achieve an acceptable environmental performance.

(B19) The buildings and structures in place at the licensed place for the storage, stockpiling and loading of mineral concentrate must be constructed and maintained to withstand a Category 2 cyclone.

(B20) The construction and state of the buildings and structures in place at the licensed place for the storage, stockpiling and loading of mineral concentrate must be checked for compliance with condition (B16) by an appropriately qualified person at least once every three (3) years.

(B21) A truck and front end loader wash bay must be installed and maintained as part of the fully enclosed mineral concentrate storage and loading facility for cleaning machinery before exit from the storage and loading facility to prevent the movement of mineral concentrate outside the storage and loading facility.

House-keeping Procedure

(B22) A whole of site housekeeping procedure must be developed and implemented which must include, but not be limited to:

(a) the completion of periodic inspections of the licensed place including all structures, plant, equipment and trafficked surfaces to identify and remove exposed mineral concentrate that may be mobilised by wind, water or equipment movement; and

(b) an ongoing cleaning and maintenance schedule to minimise any potential release of mineral concentrate and to ensure there is no build-up of mineral concentrates over time in areas where it may be mobilised.

Weather Station

(B23) The holder of this Environmental Authority must establish and maintain a permanent meteorological station to continuously measure and record wind speed, wind direction, temperature and daily rainfall volume prior to the commencement of mining activities.

(B24) The permanent meteorological station must be installed in accordance with the latest edition of the Bureau of Meteorology guideline *Observation specifications No.2013.1 Guidelines for the positioning and exposure of meteorological instruments and observing facilities*.

(B25) The holder of this Environmental Authority must record, compile, evaluate and keep all monitoring records obtained from the permanent automatic meteorological station.

Point Source Releases to Air

(B26) Point source emissions of contaminants to air must:

(a) only occur from the release points specified in Schedule B Table 5 - Release points (air); and

(b) comply with the Minimum Exit Gas Temperature specified in Schedule B Table 5 - Release points (air); and

(c) comply with the Minimum Release Height specified in Schedule B Table 5 - Release points (air); and

(d) comply with the Minimum Efflux Velocity specified in Schedule B Table 5 - Release points (air).

Schedule B – Table 5 - Release points (air)

Release point	Description (power generation unit)	Locations		Source description	Minimum release height (m)[1]	Minimum exit gas temperature (°C)[1]	Minimum efflux velocity (m/s)[1,2]
		Easting (GDA2020 MGA z54)	Northing (GDA2020 MGA z54)				
Power plant infrastructure area							
RP1 (Air)	Diesel thermal power station	411408	7770738	Up to 75 generator units for a total production of 75MW of electricity	3.2	479	59

[1] - Minimum release height (m), Minimum exit gas temperature (°C) and Minimum efflux velocity (m/s) must be measured for each power generation unit.

[2] - Minimum exit gas temperature (°C), based on preliminary calculations.

(B27) Point source emissions of contaminants to air must not exceed the contaminant release limits specified in Schedule B Table 6 - Contaminant limits (air).

Schedule B Table 6 - Contaminant limits (air)

Contaminant	Release point	g/kWh	Minimum monitoring frequency[1]
CO	RP1	3.5[2]	All release points must be monitored during commissioning of the generators and once per year thereafter.
NO_x	RP1	0.67[2]	
PM	RP1	0.03[2]	

1. Within 3 months of commencing operation of the generators listed in Schedule B – Table 5 - Release points (air), the Environmental Authority holder must conduct air emission monitoring to demonstrate compliance with air emission limits listed in Schedule B Table 6 – Contaminant limits (air).
2. Based on best practice standards, US and EU emission standards for non-road diesel engines, and emissions standards specific to generator sets where they exist and recommended by the National Clean Air Agreement.

(B28) An appropriately qualified person(s) must conduct and keep records of a monitoring program of contaminant releases to the atmosphere at the release points, frequency and for the contaminants specified in Schedule B Table 6 - Contaminant limits (air) and which complies with the most recent edition of *AS4323.1 Stationary source emissions method 1: Selection of sampling positions*, and the most recent edition of the administering authority's air quality sampling manual.

END OF CONDITIONS FOR SCHEDULE B

SCHEDULE C – LAND AND REHABILITATION

General

(C1) Unless authorised by this Environmental Authority, contaminants that will or may cause environmental harm must not be directly or indirectly released to land.

(C2) Any spillage of wastes, contaminants or other materials must be cleaned up promptly. 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 Sheets (MSDS) specify otherwise.

Rehabilitation Objectives

(C3) Land disturbed by the mining activity must be rehabilitated in accordance with Schedule C – Table 1 (Rehabilitation Requirements).

Schedule C – Table 1 (Rehabilitation Requirements)

Mine Domain	Mine Feature	Rehabilitation Goal	Rehabilitation Objectives
Mining Area	Little Eva Pit	Residual void with no post mining use	
	Turkey Creek Pit	Native vegetation and habitat	Safe, stable, non-polluting and self-sustaining.
	Bedford North Pit	Residual void with no post mining use	
	Bedford South Pit	Residual void with no post mining use	
	Lady Clayre Pits (four pits)	Residual void with no post mining use	
	Blackard Pit	Residual void with no post mining use	
	Scanlan Pit	Native vegetation and habitat	Safe, stable, non-polluting and self-sustaining
Waste Rock Dump	Little Eva WRD	Native vegetation and habitat	Safe, stable, non-polluting and self-sustaining
	Bedford North WRD		
	Bedford South WRD		
	Lady Clayre WRD		
	Blackard West WRD		
	Blackard South WRD		
	Scanlan WRD		
Processing area	Process Plant infrastructure area	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Mine infrastructure area		
	Power plant infrastructure area		
ROM and ore stockpile	ROM stockpile	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Little Eva and Turkey Creek LGO stockpile		
	Blackard ROM stockpile		
	Blackard LGO stockpile		
	Scanlan and Lady Clayre ROM stockpile		
Dams and water management infrastructure	Clean water and MAW drains	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Northern MAW Dam		
	Blackard Northern MAW Dam		
	Blackard Southern MAW Dam		
	Tailings Storage Facility MAW Dam		

Mine Domain	Mine Feature	Rehabilitation Goal	Rehabilitation Objectives
	Bedford MAW Dam		
	Scanlan MAW Dam		
	Lady Clayre MAW Dam		
	Southern ROM Pad MAW Dam		
	Process Water Pond		
	Raw Water Pond		
	Site Runoff Pond		
	South-east basin		
	North-east basin		
	Blackard Western Clean Water Dam		
	Northern MAW Dam Turkeys Nest		
	Turkey Creek Pit Turkeys Nest		
	Turkeys Nest 2 (Core Fam)		
	Turkeys Nest 3 (TSF)		
	Tailings Storage Facility (TSF)	Waste Encapsulation Facility with native grassland	Safe, stable, non-polluting and self-sustaining
Ancillary Infrastructure	Powerlines	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Access and haul roads		
	Magazine and Explosives storage facility		
	Integrated waste management and landfill facility		
	Accommodation Village		
	Sewage Treatment Plant		
	STP disposal area 1		
	STP disposal area 2		
Surface Water Diversion	Cabbage Tree Creek, Blackard Creek and unnamed tributary of Blackard Creek Diversions and buffer land	Native vegetation and habitat	Safe, stable, non-polluting and self-sustaining
	Scanlan Pit unnamed tributary diversion		
Levees	Little Eva Pit Levee and buffer land	Native vegetation and habitat	Safe, stable, non-polluting and self-sustaining
	Scanlan Pit Levee		
	Lady Clayre Pit Levee		
Bunds	Turkey Creek Bund	Native vegetation and habitat	Safe, stable, non-polluting and self-sustaining
	Blackard Bund 1		
	Blackard Bund 2		
Borrow pits	Concrete aggregate borrow pit area	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Construction material borrow pit area		
	Clay material borrow pit area (North)		
	Clay material borrow pit area (South)		

Mine Domain	Mine Feature	Rehabilitation Goal	Rehabilitation Objectives
Laydown areas	Tailings Storage Facility and Process Plant Laydown	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Little Eva Laydown		
	Little Eva Access Laydown		
	Turkey Creek Laydown		
	Bedford Laydown		
Topsoil Stockpiles	Little Eva and Turkey Creek Pit mining area	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Mine Access Road		
	Blackard Pit mining area		
	Bedford Pit mining area		
	Scanlan Pit mining area		
	Lady Clayre Pit mining area		
	Tailings Storage Facility area		
	Solar farm area		
	Clay borrow pit area		
	Ancillary infrastructure area		
Exploration	Exploration	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
Borefields (Production bores)	Northern borefield	Low intensity grazing	Safe, stable, non-polluting and self-sustaining
	Graben borefield		

(C4) Rehabilitation must commence progressively as areas become available.

(C5) Within four years after the commencement of mining activities, the holder of this Environmental Authority must commence trials to establish suitable capping systems for infrastructure on the licensed place including but not limited to the tailings storage facility and all waste rock dumps.

(C6) Within six years after the commencement of mining activities, and once every two (2) years thereafter the Environmental Authority holder must submit a report to the administering authority detailing the success and findings from the capping system trials.

(C7) Within seven years after the commencement of mining activities, the Environmental Authority holder must submit to the administering authority a report nominating the most appropriate capping system based on results from trials required in condition (C5).

Topsoil

(C8) Topsoil and subsoils must be stripped and stockpiled ahead of the areas proposed to be disturbed for the mining activity to a depth determined from soil surveys to ensure that useable soil resources are preserved for rehabilitation.

(C9) Topsoil and subsoil stockpiles must be managed to ensure stability and minimise the release of contaminants. Measures must include:

(a) vegetating permanent stockpiles[1];

(b) stockpiles will not exceed 3 m in height,

(c) stockpiles will not be located within 40 m of any watercourse to minimise the risks from erosion and sedimentation, and;

(d) stockpiles will be re-used as soon as possible.

NOTE: [1]Permanent stockpiles are those remaining the licensed place for more than six months. The Environmental Authority holder must maintain records of stockpile durations.

(C10) A topsoil inventory which identifies the topsoil requirements for the mining activity and availability of suitable topsoil on the licensed place must be kept and made available to the administering authority on request.

Rehabilitation Monitoring Program

(C11) A rehabilitation monitoring program must be implemented by an appropriately qualified person upon commencement of rehabilitation identified in Schedule C – Table 1 (Rehabilitation Requirements).

(C12) The holder of this Environmental Authority must conduct rehabilitation monitoring in accordance with the program developed in condition (C11) at least once a year including sufficient spatial and temporal replication to enable scientifically justifiable conclusions to be made, as established in the rehabilitation monitoring program.

(C13) Verification of rehabilitation success is to be carried out for each domain. Monitoring must be carried out for each domain at a minimum sampling intensity of 1:15,000 and must include sufficient replication to enable statistical analysis of results at an acceptable power as established in the rehabilitation monitoring program.

Infrastructure

(C14) All buildings, structures, mining equipment and plant erected and/or used for the mining activity must be removed from the licensed place prior to surrender, except where agreed to in writing by the administering authority and the landowner.

Chemicals and Flammable or Combustible Liquids

(C15) 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.

(C16) Notwithstanding the requirements of any applicable Australian Standard, any liquids stored on the licensed 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 liquids to waters or land.

(C17) 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.

(C18) All containment systems must be designed to minimise rainfall collection within the system.

Contaminated Land

(C19) Prior to making an application for surrender or approval for progressive rehabilitation the holder of this Environmental Authority must undertake a contaminated land assessment/investigation of the relevant areas of the licensed place in accordance with the administering authority's *Guideline for the Assessment and Management of Contaminated Land in Queensland.*

Disturbance to Land

(C20) The holder of this Environmental Authority must conduct a field assessment of flora and fauna prior to the commencement of vegetation clearing.

(C21) When carrying out the mining activity the holder of this Environmental Authority must:

(a) avoid, minimise or mitigate (in order of preference) any impacts on areas of sensitive vegetation or other areas of ecological value;

(b) minimise the risk of injury, harm, or entrapment to wildlife and stock;

(c) minimise disturbance to land that may otherwise result in land degradation;

(d) prior to carrying out any disturbance activities, make all relevant staff, contractors or agents carrying out those activities, aware of the location of any Category A, B or C Environmentally Sensitive Area (ESA) and the relevant requirements of this Environmental Authority;

(e) if significant disturbance to land is unavoidable, the holder of this Environmental Authority must clear native vegetation in a way which minimises fragmentation; and

(f) manage cleared native vegetation so that it is stockpiled in a manner that facilitates salvage, and respreading does not impede vehicle, stock or wildlife movements.

(C22) 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.

(C23) In the event of identification of rare or threatened species on the licensed place, a diagrammatic representation of the species occurrence relative to the mining activity together with a management and monitoring strategy for species conservation must be prepared to the satisfaction of the administering authority and submitted once every five (5) years.

Residual Void Outcome

(C24) Residual voids must not cause any environmental harm to land, surface waters or groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself, and subject to any other condition within this Environmental Authority.

Purple-necked Rock-wallaby Monitoring Program *(Petrogale purpureicollis)*

(C25) Prior to the commencement of mining activities, a purple-necked rock-wallaby monitoring program must be developed and implemented. The monitoring program must:

(a) monitor and record the effects of the mining activity on the purple-necked rock wallaby population; and

(b) be conducted at a frequency determined by an appropriately qualified person at intervals of not more than twelve (12) months.

(C26) In the event that the monitoring program required by condition (C25) shows a significant decline in the purple-necked rock-wallaby population, the holder of this Environmental Authority must:

(a) complete an investigation into the potential cause of the decline; and

(b) provide an investigation report to the administering authority within two (2) months of becoming aware of the decline.

(C27) A summary report detailing the results of the purple-necked rock-wallaby monitoring program carried out in accordance with condition (C25) must be provided to the administering authority at intervals of not more than three (3) years.

Groundwater Dependent Ecosystem (GDE) and Drawdown Monitoring

(C28) Prior to the commencement of mining activities, the holder of this Environmental Authority must develop a Groundwater Dependent Ecosystem (GDE) Monitoring Program.

(C29) The GDE Monitoring Program must include, but is not limited to, the following:

(a) Establish up to date baseline environmental conditions for each area including Regional Ecosystems, groundwater depths and seasonal fluctuations in groundwater levels, estimated root depth/root zone water uptake, as well as causal pathways for each assessment site

(b) Define monitoring locations and parameters, including the number and spatial distribution of monitoring sites, to ensure representative coverage of all identified GDEs.

(c) Include a trigger action response plan that defines specific trigger levels for groundwater and environmental parameters (e.g., groundwater drawdown thresholds, vegetation health indicators).

(d) Specify clear and measurable actions to be taken when trigger levels are exceeded, including mitigation measures, reporting requirements, and timelines for implementation.

(e) Establish reporting protocols, including the frequency and format of reporting to the administering authority. Reports must include monitoring data, analysis of trends, identification of any trigger exceedances, and actions taken in response to exceedances.

(f) Provisions for regular review and adaptation of the GDE Monitoring Program to ensure its ongoing effectiveness and alignment with best practice environmental management.

NOTE: The approved GDE Monitoring Program must be implemented for the life of the mine.

(C30) The holder of this Environmental Authority must:

a) complete exploration drilling at a minimum of three locations in the western graben near Leichhardt River by 30 June 2027 to validate hydrostratigraphic unit extents and depth to groundwater;

b) if a water table aquifer (AQ1) is confirmed, install a shallow monitoring bore near mapped GDEs of Pinnacle Creek and Leichhardt River within 6 months of confirmation;

c) incorporate drilling results into the numerical groundwater model update within 12 months of data collection;

d) Incorporate observed streamflow data obtained at the licensed place into the numerical groundwater model update required by c); and

e) Include information for mapped GDEs along Pinnacle Creek and near Leichhardt River in the GDE Monitoring Program required under condition C28.

(C31) Prior to commencement of pit dewatering at Little Eva, the holder of this Environmental Authority must:

a) complete the hydrogeological or geotechnical investigation of the Little Eva pit western wall to evaluate the Coolullah Fault as a hydraulic barrier and submit the final investigation report to the administering authority; and

b) install cross-fault monitoring bores (minimum one bore on each side of the fault within 500 m of the fault trace) to monitor water levels and water quality

Impacts to Prescribed Environmental Matters

(C32) Significant residual impacts to prescribed environmental matters, are not authorised under this Environmental Authority or the *Environmental Offsets Act 2014* unless the impact(s) is specified in Schedule C – Table 2 (Significant residual impacts to prescribed environmental matters) and all information required for Schedule C - Table 2 (Significant residual impacts to prescribed environmental matters) has been provided to the administering authority.

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Schedule C – Table 2 (Significant residual impacts to prescribed environmental matters)

Prescribed environmental matter	Stage	Regional Ecosystem (RE) identified	Location of impact Coordinates* (GDA2020 MGA zone 54)		Maximum extent of Impact (hectares)
			Easting	Northing	
Regional ecosystems (not within an urban area) within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map.	1 (Early Works)	1.3.7	414568	7769896	0.63
	2 (Cabbage Tree Creek, Blackard creek and unnamed tributary of Blackard Creek Diversions plus Little Eva Pit Levee incl. buffer lands)	1.3.7 1.3.13 1.5.4	409909	7771851	49.70
	3 (Solar farm and access and powerline easement)	1.3.7 1.3.13	410230	7774515	0.59
			411130	7774344	
			412112	7773911	
			413135	7772749	
	4 (Various Infrastructure – Northern Leases)	1.11.2a	413501	7769324	78.61
		1.11.3a	412067	7770842	
		1.3.13	412472	7769789	
		1.3.7b	412028	7771024	
		1.3.7a	410407	7772752	
	5 (Various Infrastructure – Northern Leases – Amended Project footprint)	1.11.2a	413678	7769979	38.18
		1.11.3a	411987	7771258	
		1.11.3a/1.11.2a	414383	7769219	
		1.3.13	413615	7770153	
		1.3.13a	410044	7772770	
		1.3.7a	410304	7772619	
		1.3.7b	411869	7770610	
		1.5.4d	410241	7772436	
	6 (Clay material borrow pit area (North))	No impacts			0.00
	7 (Blackard)	1.11.2a	411376	7766034	66.81
		1.11.3a/1.11.2a	412519	7764443	

		1.11.3a/1.5.15	412792	7761578	
		1.3.13a	412571	7764522	
		1.3.6a	411160	7766255	
		1.3.7b	412667	7764591	
	8 (Southern Pits)	1.11.3a	411656	7757094	27.19
		1.11.3a/1.11.2a	414052	7764688	
		1.11.3a/1.5.15	412417	7756359	
		1.3.13a	413483	7762294	
		1.3.7a	412491	7753939	
		1.3.7b	413681	7760712	
		1.5.4d	411977	7753859	
	9 (Clay material borrow pit area (South))	No impacts			0.00
Habitat for animal that are vulnerable wildlife – Purple-necked Rock-wallaby (*Petrogale purpureicollis*)	1 (Early Works)	N/A	415735	7771186	4.34
	2 (Cabbage Tree Creek, Blackard creek and unnamed tributary of Blackard Creek Diversions plus Little Eva Pit Levee incl. buffer lands)	No impacts			0.00
	3 (Solar farm and access and powerline easement)	N/A	413266	7772186	0.55
			413357	7771551	
			413389	7771330	
			413418	7771249	
	4 (Various Infrastructure – Northern Leases)	N/A	413445	7769796	3.17
	5 (Various Infrastructure – Northern Leases – Amended Project footprint)	N/A	414054	7769012	15.57
			413301	7771880	
	6 (Clay material borrow pit area (North))	No impacts			0.00

	7 (Blackard)	N/A	412458	7763751	4.03
	8 (Southern Pits)	N/A	410862	7756968	16.07
	9 (Clay material borrow pit area (South))	No impacts			
Waterways providing for fish passage	1 (Early Works)	No impacts			
	2 (Cabbage Tree Creek, Blackard creek and unnamed tributary of Blackard Creek Diversions plus Little Eva Pit Levee incl. buffer lands)	No impacts			
	3 (Solar farm and access and powerline easement)	No impacts			
	4 (Various Infrastructure – Northern Leases)	N/A	411252	7772560	1.75
		N/A	411181	7770639	0.56
		N/A	412044	7769544	1.37
	5 (Various Infrastructure – Northern Leases – Amended Project footprint)	No impacts			
	6 (Clay material borrow pit area (North))	No impacts			
	7 (Blackard)	N/A	410971	7766549	0.57
		N/A	412583	7764981	0.82
		N/A	413165	7764557	0.89
	8 (Southern Pits)	N/A	415696	7766801	0.15
		N/A	412549	7755385	0.09
	9 (Clay material borrow pit area (South))	No impacts			

(C33) Records demonstrating that each impact to a prescribed environmental matter not listed in Schedule C – Table 2 (Significant residual impacts to prescribed environmental matters) did not, or is not likely to, result in a significant residual impact to that matter must be:

(a) completed by an appropriately qualified person; and

(b) kept for the life of the Environmental Authority.

(C34) An environmental offset made in accordance with the *Environmental Offsets Act 2014* and *Queensland Environmental Offsets Policy*, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter (as per staging requirements) authorised in Schedule C – Table 2 (Significant residual impacts to prescribed environmental matters), unless a lesser extent of the impact has been approved in accordance with condition C38.

(C35) The significant residual impacts to a prescribed environmental matter authorised in condition C32 for which an environmental offset is required by condition C34 may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.

(C36) Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following must be provided to the administering authority:

(a) for the forthcoming stage—the estimated significant residual impacts to each prescribed environmental matter; and

(b) for the previous stage, if applicable—the actual significant residual impacts to each prescribed environmental matter, to date.

(C37) Within six months from the completion of the final stage of the project, a report completed by an appropriately qualified person, that includes the following matters must be provided to the administering authority:

(a) an analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and

(b) if applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

(C38) The report required by condition C36 must be approved by the administering authority before the notice of election for the forthcoming stage, if applicable, is given to the administering authority.

(C39) The notice of election for the staged environmental offset referred to in condition C38, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.

(C40) A Fish Salvage Plan must be prepared by an appropriately qualified person and implemented for any disturbance to waterways associated with activities approved under this Environmental Authority that result in fish becoming trapped. The plan must specify and detail measures to minimise harm to fish who become stranded or trapped, including during unseasonal rain events.

(C41) The holder of the Environmental Authority must keep records of all fish salvage activities. These records must include, at a minimum:

(a) The date and location of the fish salvage activities;

(b) The methods and equipment used for fish salvage;

(c) The species and number of fish salvaged; and

(d) The outcomes of the fish salvage activities, including any corrective actions taken.

END OF CONDITIONS FOR SCHEDULE C

SCHEDULE D – STRUCTURES

Assessment of Consequence Category

(D1) 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.

(D2) A consequence assessment report and certification must be prepared for structures which are subject to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).* The report may include a consequence assessment for more than one structure.

(D3) 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

(D4) 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 (ERS/2016/1933)*.

Note: Certification of design and construction may be undertaken by different persons. Construction of a structure includes modification of an existing structure.

(D5) Construction of a regulated structure is prohibited unless the holder of this Environmental Authority has:

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

(b) received the certification from a suitably qualified and experienced person for the design plan and the associated operating procedures in compliance with the relevant conditions of this Environmental Authority.

(D6) Certification for the design plan 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)*.

(D7) Regulated structures must:

(a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*; and

(b) be designed and constructed with due consideration given to ensuring that the design integrity will not be compromised on account of:

(i) floodwaters entering the regulated dam from any watercourse or drainage line; and

(ii) 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.

(D8) The design plan for a regulated structure must include, but is not limited to:

(a) certification that the design plan:

(i) is in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*, including subsidiary certifications if necessary; and

(ii) addresses the requirements in condition (D8) (b) to (h).

(b) a design report which provides:

(i) a description of all the documents which constitute the design plan;

(ii) a statement of:

i the applicable standards including engineering criteria, industry guidelines, relevant legislation and regulatory documents, relied upon in preparing the design plan;

ii all relevant facts and data used in preparing the design plan, including any efforts made to obtain necessary facts and data, and any limitations or assumptions to facts and data used in preparing the design plan;

iii the consequence category of the regulated structure; and

iv setting out the reasoning of the suitably qualified and experienced person who has certified the design plan, as to how the design plan provides the necessary required performance.

(iii) documentation of hydrological analyses and estimates required to determine all elements of the design including volumes and flow capacities;

(iv) detailed criteria for the design, operation, maintenance and decommissioning of the regulated structure, including any assumptions; and

(v) design, specification and operational rules for any related structures and systems used to prevent failure scenarios;

(c) drawings showing the lines and dimensions, and locations of built structures and land forms associated with the regulated structure;

(d) consideration of the interaction of the pit design with the levee or regulated structure design;

(e) an operational plan that includes:

(i) normal operating procedures and rules (including clear documentation and definition of process inputs in the Design Storage Allowance (DSA); and

(ii) 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.

(f) a plan for the decommissioning and rehabilitation of the regulated structure at the end of its operational life;

(g) details of reports on investigations and studies done in support of the design plan; and

(h) any other matter required by the suitably qualified and experienced person.

(D9) 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; and

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

(D10) The Tailings Storage Facility design and construction must include a base layer with a low permeability liner that is equal to or less than 1×10^{-9} m/s.

Notification of affected persons

(D11) All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure:

(a) prior to the operation of the new regulated structure;

(b) if the emergency plan is amended, within 5 business days of it being amended.

Operation of a Regulated Structure

(D12) Operation of a regulated structure is prohibited unless:

(a) the holder of this Environmental Authority has submitted to the administering authority:

(i) either one paper copy or one electronic copy of the design plan and certification of the design plan in accordance with condition (D8);

(ii) a set of 'as constructed' drawings and specifications; and

(iii) certification of those 'as constructed drawings and specifications' in accordance with condition (D9).

(b) the requirements of this Environmental Authority relating to the construction of the regulated structure have been met; and

(c) relevant details for the regulated structures have been included in Schedule D – Table 1 (Hydraulic Performance of Regulated Structures) or Schedule D – Table 2 (Hydraulic Performance of Regulated Levees), and into the Register of Regulated Structures required by condition (D31); and

(d) there is a current operational plan for the regulated structure.

(D13) Each regulated structure must be maintained and operated in a manner that is consistent with the current design plan, the current operational plan, and the associated certified 'as constructed' drawings for the duration of its operational life until decommissioned and rehabilitated.

(D14) The holder of this Environmental Authority must take reasonable and practicable measures to prevent harm to persons, livestock or wildlife through the construction and operation of a regulated structure. Reasonable and practicable measures may include, but are not limited to:

(a) the secure use of fencing, bunding or screening; and

(b) escape arrangements for trapped livestock and fauna.

Mandatory Reporting Level

(D15) The mandatory reporting level (MRL) must be marked on a regulated dam in such a way that during routine inspections of that structure, it is clearly observable.

(D16) The holder of this Environmental Authority must, as soon as practical and 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.

(D17) The holder of this Environmental Authority must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.

(D18) The Environmental Authority holder must record any changes to the MRL in the Register of Regulated Structures.

Design Storage Allowance

(D19) The Environmental Authority holder must assess the performance of each regulated dam over the preceding November to May period based on actual observations of the available storage in each regulated dam taken prior to 1 July each year.

(D20) On 1 November of each year, storage capacity must be available in each regulated dam or with the interconnected dams functioning as an integrated containment system, to meet the DSA volume for the dam.

(D21) The holder of this Environmental Authority must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated structure will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.

(D22) The holder of this Environmental Authority must, immediately on becoming aware that a regulated dam 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 structure or linked containment systems.

Annual Inspection Report

(D23) Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

(D24) 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 recommendations, if applicable, to ensure the integrity of the regulated structures.

- (a) against recommendations contained in previous annual inspection reports;
- (b) against recognised dam safety deficiency indicators;
- (c) for changes in circumstances potentially leading to a change in consequence category;
- (d) for conformance with the conditions of this Environmental Authority;
- (e) for conformance with the 'as constructed' drawings;
- (f) for the adequacy of the available storage in each regulated structure, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the regulated structure (or network of linked containment systems); and
- (g) for evidence of conformance with the current operational plan.

(D25) 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)*.

(D26) The holder of this Environmental Authority must within 20 business days of the 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.

(D27) A copy of the annual inspection report must be provided to the administering authority upon request within ten (10) business days of receipt of the request.

Transfer Arrangements

(D28) The holder of this Environmental Authority must provide a copy of any reports, documentation and certifications prepared under this Environmental Authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder of this Environmental Authority.

Decommissioning and Rehabilitation

(D29) Regulated structures must not be abandoned. They must be either:

- (a) decommissioned and rehabilitated to achieve compliance with condition (D30); or
- (b) be left in situ for use by the landholder provided that:
  - (i) it no longer contains contaminants that will migrate into the environment; and
  - (ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and
- (c) the Environmental Authority holder and the landholder agree in writing that the:
  - (i) dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and
  - (ii) landholder is responsible for the dam, and from an agreed date.

(D30) Before surrendering this environmental authority, each regulated structure must be decommissioned and rehabilitated to achieve a safe, stable, non-polluting landform.

Register of Regulated Structures

(D31) A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.

Note: Schedule I – Definitions defines a Register of Regulated Structures and specifies information that must be included.

(D32) 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.

(D33) The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition (D12) and (D13) has been achieved.

(D34) The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.

(D35) All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.

(D36) 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.

Hydraulic performance of regulated structures

(D37) An assessment and accompanying report certified by a suitably qualified and experienced person must be undertaken and documented in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance Criteria for Structures (ESR/2016/1933)* for all structures including those specified in Schedule D – Table 1 (Hydraulic Performance of Regulated Structures) and Schedule D – Table 2 (Hydraulic Performance of Regulated Levees).

(D38) The assessment report that achieves condition (D37) for regulated structures must:

(a) certify that all regulated structures comply with the *Manual for Assessing Consequence Categories and Hydraulic Performance Criteria for Structures (ESR/2016/1933)*; and,

(b) be submitted to the administering authority at least two (2) months before commencing construction of the relevant regulated structure/s listed in Schedule D – Table 1 (Hydraulic Performance of Regulated Structures) and Schedule D – Table 2 (Hydraulic Performance of Regulated Levees).

NOTE: In accordance with Condition (D2), the report may include an assessment for more than one structure.

(D39) Each regulated structure specified in Schedule D – Table 1 (Hydraulic Performance of Regulated Structures) must meet the hydraulic performance criteria listed in Schedule D – Table 1 (Hydraulic Performance of Regulated Structures) for that structure.

Schedule D – Table 1 (Hydraulic Performance of Regulated Structures)

Name of Regulated Structure	Consequence Category	Spillway Capacity	Design Storage Allowance	Mandatory Reporting Level	Purpose of structure
		Design Criteria	Design Criteria	Design Criteria	
Tailings Storage Facility	High	1:1000 AEP To 1:100 000 AEP	1:100 AEP	1-in-100 year AEP 72 hours rainfall duration or 1 in 100 wind wave run-up	Storage of tailings
TSF MAW Dam	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure				Storage of mine affected water
Bedford MAW Dam	Significant	1 in 100 AEP to 1 in 1,000 AEP	1 in 20 AEP	1-in-10 AEP 72 hours rainfall duration or 1 in 10 wind wave run-up	Storage of mine affected water
Scanlan MAW Dam	Significant	1 in 100 AEP to 1 in 1,000 AEP	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure	Storage of mine affected water
Southern ROM MAW Dam	Significant	1 in 100 AEP to 1 in 1,000 AEP	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure	Storage of mine affected water
Lady Clayre MAW Dam	Significant	1 in 100 AEP to 1 in 1,000 AEP	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure	Storage of mine affected water

(D40) Each levee specified in Schedule D – Table 2 (Hydraulic Performance of Regulated Levees) must have its consequence category assessed in accordance condition D1 and meet the hydraulic performance criteria listed in Schedule D – Table 2 (Hydraulic Performance of Regulated Levees) for that levee.

Schedule D — Table 2 (Hydraulic Performance of Regulated Levees)

Name of Regulated Levee	Consequence Category	Design Criteria for Flood Level	Design Flood Level (mAHD)	Use of Levee
Little Eva Pit Levee	Low	1 in 1000 AEP and appropriate freeboard	Varies along levee and ranges between 162 mRL and 166.5 mRL	Flood protection for Little Eva Pit
Scanlan Pit Levee	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure			Flood protection for Scanlan Pit
Lady Clayre Pit Levee	To be provided to the administering authority two (2) months prior to the commencement of construction of the structure			Flood protection for Lady Clayre Pit

Permanent watercourse diversions

(D41) Permanent watercourse diversions, or the re-establishment of a pre-existing watercourse where a temporary watercourse diversion is being replaced, must be designed and constructed to:

(a) incorporate natural features (including geomorphic and vegetation) present at the location of the diversion;

(b) maintain the pre-existing hydrologic characteristics of surface water and groundwater systems for the area in which the watercourse diversion is located;

(c) maintain the hydraulic characteristics of the permanent watercourse diversion that are equivalent to other local watercourses and are suitable for the area in which the diversion is located without using artificial structures that require on-going maintenance;

(d) maintain sediment transport and water quality regimes that allow the diversion to be self-sustaining, while minimising any impacts to upstream and downstream water quality, geomorphology or vegetation; and

(e) maintain equilibrium and functionality in all substrate conditions at the location of the diversion.

(D42) Permanent watercourse diversions must be designed and constructed in accordance with the Guideline *Works that interfere with water in a watercourse for a resource activity - watercourse diversions authorised under the Water Act 2000* (*OSW/2019/4599)*.

Design plan

(D43) A certified Design Plan that achieves condition (D41) for permanent watercourse diversions must be submitted to the administering authority at least two (2) months before commencing construction of the diversion. The certified Design Plan must include a functional design report, certified in accordance with the Guideline *Works that interfere with water in a watercourse for a resource activity - watercourse diversions authorised under the Water Act 2000* (*OSW/2019/4599)*.

(D44) The certified design plan for any permanent watercourse diversion must be consistent with the functional design/s that formed a part of the application documents for this authority.

Construction and operation

(D45) A certified set of ‘as constructed’ drawings and specifications must be submitted to the administering authority within ninety (90) business days from the completion of construction of the permanent watercourse diversion, or re-establishment of the pre-existing watercourse. These drawings and specifications must state:

(a) that the 'as constructed' drawings and specifications meet the original intent of the design plan for the watercourse diversion; and

(b) construction of the watercourse diversion is in accordance with the design plan.

Register

(D46) The details of watercourse diversions planned and constructed under an environmental authority must be accurately recorded on the Register of Watercourse Diversions kept by the holder of the authority. An electronic copy must be provided to the administering authority on request.

END OF CONDITIONS FOR SCHEDULE D

SCHEDULE E – WASTE

Non-Mineral Waste Management Program

(E1) A waste management program must be developed, implemented and maintained for the mining activity at the licensed place. The waste management program must be regularly reviewed and updated at intervals of no greater than five years. The program must include:

- (a) a description of the mining activity that may generate waste;
- (b) waste management control strategies including:
  - (i) recording of the types and amounts of wastes generated by the mining activity;
  - (ii) segregation of the wastes;
  - (iii) storage of the wastes;
  - (iv) transport of the wastes; and
  - (v) 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; and
- (k) staff training and induction to the waste management program.

Waste Disposal

(E2) All general and regulated waste (other than waste authorised under condition (E3)) must be removed from the licensed place to a facility that is lawfully able to accept the waste.

(E3) The only waste that can be disposed is waste generated at the licensed place and is limited to:

- (a) waste rock;
- (b) tailings;
- (c) tyres; and
- (d) general waste including construction and demolition waste, green waste, putrescibles waste and commercial waste.

(E4) General waste deposited in the active waste disposal trench must be compacted and covered with a layer of inert material following placement of the waste into the trench.

(E5) Litter control methods must be effectively implemented at the active waste disposal trench.

(E6) The active waste disposal trench must be constructed, designed, engineered and operated to minimise the generation of leachate including a system of diversion drains or embankments to divert surface waters away from any area where contact with wastes or sources of contamination may occur.

(E7) Completed waste disposal trenches must be capped with a low permeability material and compacted and contoured to effectively minimise water infiltration.

(E8) A record of the location of trenches used for waste disposal must be maintained in accordance with the waste disposal area identified in Schedule A – Table 1 (Authorised Mining Activities). Notwithstanding any other condition of this Environmental Authority, such records must be maintained until the administering authority approves the surrender of this Environmental Authority.

(E9) Unless otherwise permitted by the conditions of this Environmental Authority, waste must not be burnt or taken off the licensed place and burnt.

Regulated Waste

(E10) Regulated waste, other than that authorised to be disposed of at the licensed place under this Environmental Authority, must only be removed and transported from the licensed place by a person who holds a current authority to transport such wastes to a facility that is lawfully able to accept the waste.

(E11) Regulated waste generated by the mining activity can be temporarily stored at the licensed place prior to removal provided it is for a period no longer than six (6) months and it is stored in a manner to minimise the risk of fire or contamination of land or waters.

(E12) Each container of regulated waste stored awaiting movement from the licensed place must be clearly marked to identify the contents.

Tyre Storage and Disposal

(E13) Tyres stored awaiting disposal or transport for take-back and recycling or waste-to-energy options must be stockpiled in volumes less than 3m in height and 200m^2 in area and at least 10m from any other tyre storage area.

(E14) Fire prevention measures must be implemented including the removal of all combustible materials, including grass and vegetation, within a 10m radius of any tyre storage area.

(E15) Subject to demonstrating to the administering authority that no other use higher in the waste and resource management hierarchy can be practicably implemented, waste tyres generated from the mining activity may be disposed of at the licensed place in non acid forming waste rock dumps.

Mineral Waste Tailing Disposal

(E16) Tailings must be managed in accordance with procedures contained within a Mineral Waste Tailing Disposal Plan. The Mineral Waste Tailing Disposal Plan must be regularly reviewed and updated at intervals of no greater than five years. These procedures must include provisions for:

- (a) containment of tailings in accordance with the approved design plan(s);
- (b) the management of seepage and leachates both during operation and post closure;
- (c) the control of fugitive emissions to air;
- (d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings that must include:
  - (i) progressive characterisation of all tailings material during disposal for net acid producing potential (NAPP) and the following contaminants: arsenic, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, uranium, zinc and fluoride;
  - (ii) Tailings characterisation must be undertaken at a minimum rate of eight (8) regularly spaced samples per 100,000 tonnes of tailings material discharged. This frequency must be reviewed after a period of one (1) year; and
  - (iii) geochemical kinetic testing where the acid producing potential of tailings material has not been conclusively determined to indicate oxidation rates, potential reaction products and effectiveness of control strategies.
- (e) management of tailings in order to minimise the potential for environmental harm.

Waste Rock Disposal

(E17) The holder of this Environmental Authority must develop and implement a waste rock management plan prior to the commencement of mining activities and regularly review and update the plan at intervals of no greater than five years.

(E18) Waste rock disposal must not occur on the licensed place unless the holder of this Environmental Authority has developed a waste rock management plan. The waste rock management plan must be certified by an appropriately qualified person, to ensure the plan has addressed the requirements of this Environmental Authority in accordance with best practice environmental management.

(E19) The waste rock management plan must be independently certified by an appropriately qualified person with a minimum of ten (10) years of demonstrated expertise and experience in the design and rehabilitation of waste rock dumps.

(E20) The waste rock management plan 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 pre-mine waste rock characterisation. The waste rock sampling program must include validation of salinity, acid and alkali producing potential and metal concentrations including arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, uranium and zinc;

(d) where the acid rock drainage potential/neutral mine drainage potential of waste rock material has not been conclusively determined, geochemical kinetic testing must be conducted to indicate oxidation rates, potential reaction products and effectiveness of control strategies;

(e) records must be maintained of all waste rock characterisation and disposal including contingency planning for the management of acid rock/neutral mine drainage;

(f) a materials balance and disposal plan demonstrating how potentially acid forming and acid forming waste rock will be selectively placed and/or encapsulated to minimise the generation of acid and metalliferous drainage;

(g) a materials balance and disposal plan demonstrating how waste rock that has a potential to generate neutral and/or saline mine drainage will be selectively placed and managed to minimise the generation of neutral and/or saline mine drainage;

(h) a sampling program to verify encapsulation and/or placement of potentially acid forming and acid forming waste rock and waste rock that has a potential to generate neutral mine drainage;

(i) how often the performance of the plan will be assessed;

(j) a rehabilitation strategy which meets the rehabilitation objectives specified in Schedule C of this Environmental Authority; and

(k) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of the placed materials, including the prevention and management of acid and metalliferous drainage, erosion minimisation and establishment of vegetation cover.

(E21) The waste rock dump must be designed, constructed and maintained to prevent any water other than incidental rainfall from entering the waste rock dump.

(E22) Any seepage from the waste rock dump must be captured and directed to an appropriately engineered and maintained storage authorised to receive seepage in accordance with Schedule D – Structures of this Environmental Authority.

(E23) Five years after the commencement of mining activities, the holder of this Environmental Authority must develop and implement a waste rock dump rehabilitation trial program, which:

(a) is developed and certified by an appropriately qualified person;

(b) considers the closure and rehabilitation requirements detailed in Schedule C of this Environmental Authority;

(c) trials a variety of different cover systems and rehabilitation techniques in accordance with condition (C5) of this Environmental Authority; and

(d) includes, at a minimum, monitoring of:

(i) water retention and infiltration rates;

(ii) water quality of leachate;

(iii) vegetation health, density, type and cover; and

(iv) rainfall, evaporation, climatic data and evapo-transpiration rates.

(E24) The waste rock dump rehabilitation trial program must be reviewed on an annual basis for appropriateness, with summary reports to be provided to the administering authority on request.

(E25) All waste rock characterised as having acid forming potential must be returned to an open pit at end of mine life or be encapsulated in a suitably designed waste rock dump approved by the administering authority.

(E26) Non-acid forming waste rock may be used in rehabilitation or the construction of temporary or permanent structures within the operational areas if it is characterised as un-reactive (including material that does not cause acid, neutral or saline mine drainage).

Contaminated Drainage Management

(E27) All reasonable and practicable measures must be implemented to prevent contaminated water being directly or indirectly released or likely to be released as a result of the mining activity to any waters.

END OF CONDITIONS FOR SCHEDULE E

SCHEDULE F – NOISE AND VIBRATION

General

(F1) Noise and vibration from the mining activity must not cause environmental harm at any sensitive place or commercial place.

(F2) In the event of a complaint made to the administering authority (considered in the opinion of an authorised officer to be neither frivolous or vexatious) about noise or vibration generated in carrying out the mining activity 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.

Noise and Vibration Monitoring

(F3) The holder of this Environmental Authority must ensure that noise and vibration generated by the mining activity does not cause the criteria in Schedule F – Table 1 (Noise Limits) or Schedule F – Table 2 (Blasting Noise Limits) to be exceeded at any sensitive place or commercial place.

(F4) When requested by the administering authority, noise and/or vibration monitoring and recording must be undertaken within a timeframe nominated by the administering authority at any sensitive place or commercial place and the results must be provided to the administering authority within ten (10) business days following completion of monitoring.

Schedule F – Table 1 (Noise Limits)

Noise Level dB(A) Measured as:	7 Days per Week		
	7am to 6pm	6pm to 10pm	10pm to 7am
$LAeq_{,adj,1hour}$	42	42	40

(F5) The limits in Schedule F – Table 1 do not apply at a sensitive place where an alternative arrangement is in place with the owner and/or occupier of the sensitive place that covers the noise being emitted. The Environmental Authority holder must keep record of any agreement with the owner/occupier of any sensitive receptors accepting that they may experience elevated noise from the activity.

(F6) Prior to the commencement of mining activities, the holder of this Environmental Authority must develop and implement a noise monitoring program to demonstrate compliance with the noise limits identified in Schedule F – Table 1 (Noise Limits).

(F7) A copy of the noise monitoring program required by condition (F6) must be provided to the administering authority on request.

(F8) Noise monitoring and recording must include the following descriptor characteristics and matters:

(a) $L_{AN,T}$ (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins);
(b) background noise L_{A90};
(c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels;
(d) atmospheric conditions including temperature, relative humidity and wind speed and directions;
(e) effects due to any extraneous factors such as traffic noise;
(f) location, date and time of monitoring;
(g) if the complaint concerns low frequency noise, Max $Lp_{LIN,T}$; and
(h) if the complaint concerns low frequency noise, one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

(F9) The method of measurement and reporting of noise levels must comply with the most recent edition of the administering authority's Noise Measurement Manual or the most recent version of AS1055 *Acoustics* –

Description and measurement of environmental noise.

Air Blast and Ground Vibration

(F10) The holder of this Environmental Authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in Schedule F – Table 2 (Blasting Noise Limits) to be exceeded at any sensitive place or commercial place.

Schedule F – Table 2 (Blasting Noise Limits)

Blasting Noise Limits	Sensitive or Commercial Place Limits	
	7am to 6pm	6pm to 7am
Air blast overpressure	115 dB (Linear) peak for nine (9) out of ten (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 nine (9) out of ten (10) consecutive blasts and not greater than 10 mm/second peak particle velocity at any time.	No Blasting

(F11) The holder of this Environmental Authority must develop and implement a blast monitoring program to monitor compliance with Schedule F – Table 2 (Blast Noise Limits) for:

(a) at least 50% of all blasts undertaken on the licensed 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.

(F12) Where blast monitoring detects non-compliance with Schedule F – Table 2 (Blasting Noise Limits) the holder of this Environmental Authority must:

(a) take steps to ensure compliance is achieved by subsequent blasts; and

(b) continue to monitor all consecutive blasts until at least three (3) successive blasts comply with Schedule F – Table 2 (Blasting Noise Limits).

(F13) 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.*

(F14) The method of measurement and reporting of air blast overpressure levels must comply with the most recent Australian standard *Explosives – Storage and use* guidelines.

END OF CONDITIONS FOR SCHEDULE F

SCHEDULE G – WATER

Contaminant Release

(G1) Contaminants that will, or have the potential to cause environmental harm, must not be released directly or indirectly to any waters, except as permitted under the conditions of this Environmental Authority.

(G2) Unless otherwise permitted under the conditions of this Environmental Authority, the release of contaminants to waters must only occur from the release points specified in Schedule G - Table 1 (Contaminant release points, sources and receiving water) and depicted in Schedule J – Plan 3.

(G3) Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.

Schedule G – Table 1 (Contaminant release points, sources and receiving waters)

Release point	Coordinates (GDA2020 MGA zone 54)		Contaminant source and release location	Receiving waters description
	Easting	Northing		
RP1	410837	7773142	Northern MAW Dam (release infrastructure)	Cabbage Tree Creek
RP6	413509	7756518	Scanlan MAW Dam (release infrastructure)	Dugald River (upper)
RP9	412466	7753519	Lady Clayre MAW Dam (release infrastructure)	Dugald River (upper)

(G4) Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.

(G5) The release of water from release points to waters must be monitored at the locations specified in *Schedule G - Table 1 - Contaminant release points, sources and receiving waters* for each quality characteristics and at the frequency specified in *Schedule G - Table 2 Contaminant release limits, Schedule G - Table 3 - Contaminant release during flow events (Cabbage Tree Creek)* and *Schedule G - Table 4 – Contaminant release during flow events (Dugald River)*.

(G6) The release of water from release points specified in Schedule G – Table 1 (Contaminant release points, sources and receiving waters) must not exceed the release limits stated in Schedule G - Table 2 (Contaminant release limits) when measured at the release points specified in Schedule G - Table 1 (Contaminant release points, sources and receiving waters).

(G7) If an exceedance in accordance with condition G6 is identified, the holder of this Environmental Authority must:

a) notify the administering authority, via WaTERS, as soon as practicable but within twenty-four (24) hours of receiving the result; and

b) complete an investigation into potential environmental harm and provide a written report to the administering authority within three (3) months, as per Condition G13.

If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

(G8) By 30 June 2028, or the point at which at least 24 months of data is obtained, whichever is the latter, the holder of this environmental authority must submit to the administering authority a list of revised release limits for limits identified as 'interim' in *Schedule G* - Table 2 Contaminant release limits, including all calculations and justifications based on minimum dilution ratios in *Schedule G – Table 3 (Contaminant release during flow events (Cabbage Tree Creek))* and *Schedule G – Table 4 Contaminant release during flow events (Dugald River)*. The release rates in *Schedule G – Table 3 (Contaminant release during flow events (Cabbage Tree Creek))* and *Schedule G – Table 4 Contaminant release during flow events (Dugald River)* may also be revised to accommodate the new release limits, if required.

NOTE: The raw data (at least 24 months) must be provided with the calculated site-specific limit values.

Schedule G – Table 2 Contaminant release limits

Quality characteristic[1]	Release limit	Monitoring frequency
Electrical conductivity (in-situ, µS/cm)	Release limits specified in Table 3 and Table 4 for variable flow criteria	Daily during release (the first sample must be taken within two hours of commencement of release)
pH (in-situ, pH unit)	6.0 (minimum) 9.0 (maximum)	
Total suspended solids (TSS, mg/L)[4,5]	Upstream value +10%	
Sulfate (mg/L)	250	
Fluoride (mg/L)[4]	1.7[2]	
Dissolved Aluminium (mg/L)[4]	0.26[3]	
Dissolved Arsenic (mg/L)[4]	0.013[2]	
Dissolved Cadmium (mg/L)[4]	0.0002[2]	
Dissolved Chromium (mg/L)[4]	0.001[2]	
Dissolved Cobalt (mg/L)[4]	0.0014[2]	
Dissolved Copper (mg/L)[4]	0.006[3]	
Total Iron (mg/L)[4]	0.28[2]	
Dissolved Lead (mg/L)[4]	0.0034[2]	
Dissolved Manganese (mg/L)[4]	1.9[2]	
Dissolved Mercury (inorganic) (mg/L)[4]	0.0006[2]	
Dissolved Molybdenum (mg/L)[4]	0.034[2]	
Dissolved Nickel (mg/L)[4]	0.011[2]	
Dissolved Selenium (mg/L)[4]	0.011[2]	

Quality characteristic[1]	Release limit	Monitoring frequency
Dissolved Silver (mg/L)[4]	0.00005[2]	
Dissolved Uranium (mg/L)[4]	0.0068[3]	
Dissolved Zinc (mg/L)[4]	0.008[2]	

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (field filtered) concentrations
2. ANZG (2018) guidelines for the protection of 95% of aquatic ecosystems
3. 95th percentile of baseline data collected in the receiving environment prior to mining activities commencing
4. Interim release limits to be revised as per Condition G8

(G9) Notwithstanding any other condition of this Environmental Authority, the release of contaminants to waters in accordance with condition G2 must only take place during periods of natural flow, exceeding 2 m^3/s, in accordance with the receiving water flow criteria for discharge specified in Schedule G – Table 3 (Contaminant release during flow events (Cabbage Tree Creek)) and Table 4 (Contaminant release during flow events (Dugald River)).

(G10) The release of contaminants to waters in accordance with condition G2 must not exceed the electrical conductivity (EC) or the maximum release rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in Schedule G – Table 3 (Contaminant release during flow events (Cabbage Tree Creek)) and Schedule G - Table 4 (Contaminant release during flow events (Dugald River)) when measured at the release points specified in Schedule G - Table 1 (Contaminant release points, sources and receiving waters).

Schedule G - Table 3 (Contaminant release during flow events (Cabbage Tree Creek))

Release Point (RP)	RP1	**Gauging station / upstream monitoring point:**	U/S Little Eva and Blackard
Receiving water flow recording frequency	Continuous (minimum daily)	**Coordinates – Easting/Northing (GDA2020 MGA Zone 54)**	407675 / 7768905
Receiving waters flow regime	**Receiving water flow criteria for discharge (m^3/s)**	**Maximum release rate (for all combined RP flows) (m^3/s)**	**EC release limit (µS/cm)**
Low flow	< 2 m^3/s of natural flow	No release	
Medium flow	> 2 m^3/s	1.0 m^3/s	1,000
	> 3 m^3/s	1.5 m^3/s	1,000
		1.0 m^3/s	1,250
	> 4 m^3/s	2.0 m^3/s	1,000
		1.3 m^3/s	1,250
		1.0 m^3/s	1,500
High flow	> 10 m^3/s	5.0 m^3/s	1,000
		3.0 m^3/s	1,250
		2.5 m^3/s	1,500
		1.6 m^3/s	2,000
		1.2 m^3/s	2,500
		1.0 m^3/s	3,000
	> 20 m^3/s	10 m^3/s	1,000
		3.3 m^3/s	2,000
		2.0 m^3/s	3,000
		1.4 m^3/s	4,000
		1.1 m^3/s	5,000
		0.9 m^3/s	6,000
Very-high flow	> 50 m^3/s	12.5 m^3/s	1,500
		8.3 m^3/s	2,000

Release Point (RP)	RP1	**Gauging station / upstream monitoring point:**	U/S Little Eva and Blackard
		5.0 m^3/s	3,000
		3.5 m^3/s	4,000
		2.7 m^3/s	5,000
		2.2 m^3/s	6,000
		1.9 m^3/s	7,000
Ultra-high flow	> 67 m^3/s	11.1 m^3/s	2,000
		6.7 m^3/s	3,000
		4.7 m^3/s	4,000
		3.7 m^3/s	5,000
		3.0 m^3/s	6,000
		2.6 m^3/s	7,000

Schedule G - Table 4 – Contaminant release during flow events (Dugald River)

Release Point (RP)	RP6 and RP9	**Gauging station / upstream monitoring point:**	U/S Lady Clayre and Scanlan
Receiving water flow recording frequency	Continuous (minimum daily)	**Coordinates – Lat/Long (GDA2020 MGA Zone 54)**	412538 / 7753362
Receiving waters flow regime	**Receiving water flow criteria for discharge (m^3/s)**	**Maximum release rate (for all combined RP flows) (m^3/s)**	**EC release limit (µS/cm)**
Low flow	< 2 m^3/s of natural flow	No release	
Medium flow	> 2 m^3/s	1.0 m^3/s	1,000
	> 3 m^3/s	1.0 m^3/s	1,250
		0.5 m^3/s	2,000
	> 4 m^3/s	1.0 m^3/s	1,500
		0.5 m^3/s	2,500
		0.3 m^3/s	5,000
High flow	> 10 m^3/s	1.0 m^3/s	3,000
		0.6 m^3/s	5,000
		0.2 m^3/s	7,000
	> 20 m^3/s	1.0 m^3/s	5,500
		0.8 m^3/s	7,000

(G11) The holder of this Environmental Authority must notify the administering authority of a release event (no later than twenty-four (24) hours after having commenced releasing contaminated water to the receiving environment). Notification must include the submission of written verification to the administering authority, via WaTERS of the following information:

(a) release commencement date/time;

(b) expected release cessation date/time;

(c) release location(s);

(d) release rate and contaminant load (estimated);

(e) receiving water(s) including the natural flow rate; and

(f) any details (including available data) regarding likely impacts on the receiving water(s).

If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

(G12) The holder of this Environmental Authority must notify the administering authority, via WaTERS, within twenty-four (24) hours after cessation of a release as notified under condition (G11) and within twenty (20) business days provide the following information in writing:

(a) release cessation date/time;

(b) natural flow volume in receiving water;

(c) volume of water released;

(d) details regarding the compliance of the release with the conditions of Schedule G in this Environmental

Authority (i.e. contaminant limits, natural flow, discharge volume);

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

(f) any other matters pertinent to the release.

If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

(G13) Any investigation related to a release of contaminants must include the submission of a report and all corresponding raw data to the administering authority, via WaTERS, including:

(a) the reason for the release; and

(b) the location of the release; and

(c) the duration, volume and flow rate of the release; and

(d) all water quality monitoring results (including all laboratory analyses) for the relevant release point and corresponding upstream and downstream monitoring point/s, including historical data collected at these locations presented in the form of timeseries and in the form of summary statistics for data collected in similar flow conditions; and

(e) all flow data collected at relevant flow gauges; and

(f) an assessment of water quality results with regards to environmental values, with consideration of flow condition in the receiving environment at the time of the release; and

(g) any general observations; and

(h) all calculations; and

(i) any other matters pertinent to the water release event.

If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

(G14) Records of all water quality monitoring data collected as part of conditions in Schedule G of this Environmental Authority (release, receiving environment, REMP, water storages, sewage treatment plants and groundwater) must be kept and provided to the administering authority in the specified electronic format via WaTERS on 1 June of each year, including:

(a) the date and time when the sample was taken;

(b) the monitoring point where the sample was taken, including geographical co-ordinates if different from monitoring points listed in this Environmental Authority);

(c) the water quality result of each monitored parameter.

Receiving Waters Monitoring

(G15) The holder of this environmental authority must ensure stream flow gauging stations are installed, operated and maintained to determine and record flows at the locations and flow recording frequency specified in Schedule G - Table 3 Contaminant release during flow events (Cabbage Tree Creek), Schedule G -Table 4 Contaminant release during flow events (Dugald River) and Schedule G -Table 5 (Receiving Water Upstream and Downstream Monitoring Points).

(G16) The quality of the receiving waters must be monitored at the locations specified in Schedule G - Table 5 (Receiving water Upstream and downstream monitoring points) and identified on Schedule J – Plan 3 (Surface water and sediment monitoring locations) for each quality characteristic listed in Schedule G – Table 6 (Receiving waters water quality objectives and trigger investigation levels) and at the monitoring frequency stated in Schedule G – Table 5 (Receiving water Upstream and downstream monitoring points).

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Schedule G – Table 5 (Receiving Water Upstream and Downstream Monitoring Points)

Watercourse	Monitoring location	Description	Coordinates (GDA2020 MGA Zone 54)		Parameters	Frequency
			Easting	Northing		
Upstream monitoring points						
Cabbage Tree Creek[5]	U/S Little Eva and Blackard	Approximately 5,950 metres upstream of RP1	407696	7768969	Flow, pH, EC	Continuous
Dugald River (upper)[6]	U/S Lady Clayre and Scanlan[3]	Approximately 220 metres upstream of RP9 and 3,740 metres upstream of RP6	412538	7753362		
Cabbage Tree Creek[5]	U/S Little Eva and Blackard	Approximately 5,950 metres upstream of RP1	407696	7768969	Water quality as per Schedule G Table 6	▪ In-situ parameters: daily during release events (with first sample within two (2) hours of commencement of release) ▪ Laboratory parameters: weekly during release (first sample within two (2) hours of commencement of release)
Dugald River (upper)[6]	U/S Lady Clayre and Scanlan[3]	Approximately 220 metres upstream of RP9 and 3,740 metres upstream of RP6	412538	7753362		
Downstream compliance points						
Cabbage Tree Creek[5]	D/S Little Eva and Blackard	Approximately 2700 metres downstream of RP1	410581	7775474	Flow, pH, EC	Continuous
Dugald River (upper)[6]	D/S Lady Clayre and Scanlan[3]	Approximately 6600 metres downstream of RP9 and 3000 metres downstream of RP6	414145[1]	7759329[1]	EC and pH	
			414454[2]	7760419[2]	Flow	

Watercourse	Monitoring location	Description	Coordinates (GDA2020 MGA Zone 54)		Parameters	Frequency
			Easting	Northing		
Cabbage Tree Creek[5]	D/S Little Eva and Blackard	Approximately 2700 metres downstream of RP1	410581	7775474	Water quality as per Schedule G Table 6	▪ In-situ parameters: daily during release events (with first sample within two (2) hours of commencement of release) ▪ Laboratory parameters: weekly during release (first sample within two (2) hours of commencement of release)
Dugald River (upper)[6]	D/S Lady Clayre and Scanlan[3]	Approximately 3000 metres downstream of RP6	414145[1]	7759329[1]		
	SW3[3]	Approximately 1,450 metres downstream of RP9	413346	7754589		

1. Proposed water quality monitoring location
2. Proposed space-time image velocimetry (STIV) location
3. Monitoring to commence two years prior to commencement of mining, as per Condition G17.
4. "Flowing condition" is defined as a minimum flow detected (above 0.001 cumecs) at the continuous flow gauge
5. Relevant to releases from RP1
6. Relevant to releases from RP6, RP9

(G17) Prior to commencement of mining in the Scanlan and Lady Clayre area, the holder of this Environmental Authority must:

(a) collect at least 24 months of water quality data at the upper Dugald River sites listed in Schedule G – Table 5 (Receiving water upstream and downstream monitoring points), including continuous electrical conductivity, pH and flow at 'U/S Lady Clayre and Scanlan'

(b) revise all values identified as 'interim triggers' in Schedule G – Table 6 (Receiving waters trigger investigation levels), via an amendment application under the *Environmental Protection Act 1994*, once at least 24 months data have been collected.

NOTE: The raw data (at least 24 months) must be provided with the calculated site-specific trigger values; and laboratory samples must include a minimum of 12 datapoints collected during flows exceeding 2 cumecs that occurred on different rain events.

Schedule G – Table 6 (Receiving waters trigger investigation levels)

Watercourse	Cabbage Tree Creek		Upper Dugald River	
Associated RPs	RP1		RP6, RP9	
Quality Characteristic[1]	**Water quality objective[2]**	**Trigger level[3]**	**Water quality objective[2]**	**Trigger Level[3]**
pH (in-situ, pH units)	7.5 (minimum) 8.2 (maximum)	7.0 (minimum) 8.4 (maximum)	7.5 (minimum) 8.1 (maximum)	7.0 (minimum) 8.3 (maximum)

EC (in-situ, µS/cm)	500	610	500	700
Sulfate (mg/L)	250			
Fluoride (mg/L)	1.7			
Dissolved Aluminium (mg/L) [4]	0.055	0.26	0.14	0.36
Dissolved Arsenic (mg/L) [4]	0.013			
Dissolved Cadmium (mg/L) [4]	0.0002			
Dissolved Chromium (mg/L) [4]	0.001			
Dissolved Cobalt (mg/L) [4]	0.0014			
Dissolved Copper (mg/L) [4]	0.006			
Total Iron (mg/L) [4]	0.28			
Dissolved Lead (mg/L) [4]	0.0034			
Dissolved Manganese (mg/L) [4]	1.9			
Dissolved Mercury (inorganic) (mg/L) [4]	0.0006			
Dissolved Molybdenum (mg/L) [4]	0.034			
Dissolved Nickel (mg/L) [4]	0.011			
Dissolved Selenium (mg/L) [4]	0.011			
Dissolved Silver (mg/L) [4]	0.00005			
Dissolved Uranium (mg/L) [4]	0.007			
Dissolved Zinc (mg/L) [4]	0.008			
Total Suspended Solids (mg/L) [4]	upstream ± 10%			
Turbidity (in-situ, NTU)	For interpretation purposes			
Major Cations and Anions	For interpretation purposes			
Dissolved organic carbon (DOC)	For interpretation purposes			

1 All metals and metalloids must be measured as total (unfiltered) and dissolved (field filtered) concentrations.
2 Default ANZG (2018) or 80th percentile (or 75th percentile for EC, or 20th-80th percentile for pH) of reference (background) water quality data whichever is higher.
3 Default ANZG (2018) or 95th percentile (or 5th-95th percentiles for pH) of reference (background) water quality data whichever is higher.
4 Interim trigger value to be revised in accordance with Condition G17 (minimum 12 datapoints collected during flowing conditions exceeding 2 cumecs).

(G18) If quality characteristics of the receiving waters at the downstream monitoring point specified in Schedule G - Table 5 - Receiving Water Upstream and Downstream Monitoring Points exceeds any of the trigger levels specified in Schedule G -Table 6 - Receiving waters trigger levels, the Environmental Authority holder must compare the downstream results to the upstream results in the receiving waters and:

a) where the downstream result is similar to (±10%, or less than, but within the trigger range for pH), the upstream value for the quality characteristics, then no action is to be taken, or
b) where the downstream result is less than the bioavailability-corrected default guideline value as per ANZG (2018) published (i.e. non-draft) technical guidance (e.g. DOC corrected sample-specific value) for the quality characteristics, then no action is to be taken, or
c) where the downstream results do not meet the description in G18(a) and (b), complete an investigation into potential environmental harm and provide a written report, including all corresponding raw data, to the administering authority within three (3) months, outlining,
    (i) Details of the investigations carried out; and
    (ii) Actions taken to prevent environmental harm.

The administering authority reserves the right to take compliance actions based on results of any investigation.

Note: Where an exceedance of a contaminant release limit or receiving environment trigger has occurred and is being investigated, in accordance with clause (c) of this condition, then no further reporting is required for subsequent exceedance events for that quality characteristic within the three month investigation period.

Onsite Water Storages

(G19) Water storages stated in Schedule G – Table 7 (Onsite Water Storage Monitoring Locations) must be monitored for the water quality characteristics specified in Schedule G -Table 8 (Onsite Water Storage Contaminant Limits) at the monitoring storages and at the monitoring frequency specified in Schedule G – Table 7 (Onsite Water Storage Monitoring Frequency).

Schedule G – Table 7 (Onsite Water Storage Monitoring Frequency)

Water Storage Description	Frequency of Monitoring
MAW Dams and TSF	
Northern MAW Dam	Monthly
Scanlan MAW Dam	
Lady Clayre MAW Dam	
Blackard Northern MAW Dam	Monthly
Blackard Southern MAW Dam	
TSF MAW Dam	
Bedford MAW Dam	
Southern ROM Dam	
Tailings Storage Facility (decant pond)	
MAW and Other Storages	

Little Eva Borrow Pit (when used as storage)	Quarterly
Turkey Creek Pit (when used as storage)	
Northern MAW Dam Turkeys Nest	
Turkey Creek Pit Turkeys Nest	
Turkeys Nest 2 (Core Farm)	
Turkeys Nest 3 (TSF)	
Process Water Pond	
Raw Water Pond	
Site Runoff Pond	

(G20) In the event that any high consequence water storages exceed the contaminant limits defined in Table 3 of the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, the holder of this Environmental Authority must comply with Table 4 of the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933).

(G21) In the event that waters storages defined in Schedule G – Table 7 (Onsite Water Storage Monitoring Frequency) exceed the contaminant limits defined in Schedule G –Table 8 (Onsite Water Storage Contaminant Limits) the holder of this Environmental Authority must implement measures to prevent access to waters by all livestock and minimise access by native fauna.

Schedule G – Table 8 (Onsite Water Storage Contaminant Limits)

Quality Characteristic[3]	Test Value	Contaminant Limit
pH (pH unit)	Minimum	4.0[2]
	Maximum	9.0[2]
EC (µS/cm)	Maximum	5970[1]
Sulfate (mg/L)	Maximum	1000[1]
Fluoride (mg/L)	Maximum	2[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.025[1]
Cadmium (mg/L)	Maximum	0.01[1]
Chromium (mg/L)	Maximum	0.05[1]
Cobalt (mg/L)	Maximum	1[1]
Copper (mg/L)	Maximum	1[1]
Iron (mg/L)	Interpretation	For interpretation purposes
Lead (mg/L)	Maximum	0.1[1]

Manganese (mg/L)	Interpretation	10[1]
Mercury (mg/L)	Maximum	0.002[1]
Molybdenum (mg/L)	Maximum	0.024[1]
Nickel (mg/L)	Maximum	1[1]
Selenium (mg/L)	Maximum	0.02[1]
Silver (mg/L)	Interpretation	For interpretation purposes
Uranium (mg/L)	Maximum	0.2[1]
Zinc (mg/L)	Maximum	20[1]
Total Suspended Solids (mg/L)	Interpretation	For interpretation purposes
Major cations and anions	Interpretation	For interpretation purposes

1. Contaminant limit based on ANZECC (2000) and draft ANZG (2023) stock water quality guidelines for beef cattle (applicable total (unfiltered) fraction).
2. Page 4.2-15 of ANZECC (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9".
3. All metals and metalloids must be measured as total (unfiltered) and dissolved (field filtered). This table only includes limits for parameters for which livestock guideline values exist, however other contaminants of concern must also be monitored for interpretation of any potential point-source influence.

Receiving Environment Monitoring Program

(G22) A Receiving Environment Monitoring Program (REMP) must be implemented by an appropriately qualified person within three months of the holder of this Environmental Authority satisfying the requirements of condition G25 and G26.

(G23) The REMP must monitor and record the effects of the mining activities and the release of contaminants on the receiving environment periodically and whilst contaminants are being released. The aim of the REMP is to identify and describe the extent of any adverse impacts on local environmental values and to monitor any changes in the receiving waters. A copy of the REMP and any update or variation of the REMP must be provided to the administering authority prior to its implementation.

(G24) On or before 30 June 2026, a REMP Design Document must be:

a) prepared in accordance with condition G26 and

b) submitted to the administering authority.

For the purposes of the REMP, the receiving environment is the waters and connected waterways within 5km downstream of the mining activity.

(G25) Any comments made by the administering authority on the REMP Design Document must be addressed to the reasonable satisfaction and within a timeframe specified by the administering authority.

(G26) The REMP Design Document must include (but not necessarily be limited to) the following:

(a) description of potentially affected receiving groundwaters and surface waters including key communities and reference water quality and sediment characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality);

(b) description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*;

(c) any relevant reports prepared by other governmental or professional research organisations that relate

to the receiving environment to which the REMP applies;

(d) water and sediment quality targets within the receiving environment to be achieved, and definition of contaminant concentrations or level indicating adverse environmental impacts during the REMP;

(e) monitoring and assessment for any potential adverse environmental impacts caused by a release;

(f) monitoring of stream flow and hydrology;

(g) monitoring of toxicants that must consider the quality characteristics specified in Schedule G – Table 6 (Receiving Waters Contaminant Triggers) to assess the extent of the compliance of concentrations with water quality objectives and/or the latest iteration of ANZG (2018) Guidelines for slightly to moderately disturbed ecosystems;

(h) monitoring of water quality of parameters specified in Schedule G – Table 6 (Receiving waters trigger investigation levels) and additional physico-chemical parameters, including dissolved oxygen saturation and temperature;

(i) minimum twice-yearly monitoring of sediments for parameters listed in the REMP.

(j) monitoring biological indicators (for macroinvertebrates in accordance with the administering authority's monitoring and sampling manual (AusRivas Methodology) and metals/metalloids in sediments (in accordance with latest iteration of ANZG (2018) and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*) for permanent, semi-permanent water holes and water storages;

(k) the locations of monitoring points associated with release points, including, but not limited to, the upstream and downstream locations specified in Table 5 (Receiving Water Upstream and Downstream Monitoring Points), and additional locations relevant to the monitoring of the mine activities unrelated to releases. Reference sites must comply with the following criteria:

(i) be from the same bio-geographic and climatic region;

(ii) have similar geology, soil types and topography;

(iii) contain a range of habitats similar to those at the potentially impacted sites;

(iv) have a similar flow regime; and

(v) not be so close to the potentially impacted sites that any disturbance at the potentially impacted sites also results in a change at the reference site.

(l) the frequency or scheduling of sampling and analysis that is sufficient to determine water quality objectives and to derive site specific reference values within two (2) years (depending on wet season flows) in accordance with the *Queensland Water Quality Guidelines*. For ephemeral streams, this should include periods of flow irrespective of mine or other release;

(m) specify sampling and analysis methods and quality assurance and control;

(n) any historical datasets to be relied upon;

(o) description of the statistical basis on which conclusions are drawn; and

(p) any spatial and temporal controls to exclude potential confounding factors.

(G27) A report outlining the findings of the REMP including all monitoring results and interpretations in accordance with condition (G23) must be prepared by an appropriately qualified person and submitted in writing to the administering authority by 1 June each year. The report must include:

a) an assessment of upstream water quality and the assimilative capacity for those contaminants monitored; and

b) all surface water and sediment monitoring results as required by this environmental authority and the REMP Design, including release and receiving environment data presented in the form of timeseries for each monitoring location; and

c) all biota indicator monitoring results, as per the REMP Design Document; and

d) interpretation of the monitoring results with consideration of variability associated with flow conditions and temporal trends, including historical data; and

e) an assessment of all detected impacts to the receiving environment; and

f) an assessment of the suitability of current contaminant release limits to protect downstream environmental values; and

g) Any recommendations to address any risk or impact identified to environmental values. If contaminant release limits are identified as unsuitable to protect downstream environmental values, recommendations for more appropriate contaminant limits must be included.

(G28) Any comments made by the administering authority on the REMP Reports must be given due consideration by the holder of this Environmental Authority and addressed in following REMP sampling and reporting years.

Stream Sediment Monitoring

(G29) Sediment quality of receiving waters and reference waters must be monitored twice a year (once at the end of the wet season and once at the end of the dry season) at the monitoring locations defined in Schedule G – Table 6 (Receiving Water Reference Sites and Downstream Monitoring Points) and identified on Schedule J – Plan 3 – Surface Water and Sediment Monitoring Locations.

(G30) All stream sediment sampling must be undertaken in accordance with the most recent version of Australian Standard AS 5667.12 *Guidance on Sampling of Bottom Sediments.*

Water Management Plan

(G31) A water management plan must be developed and implemented by 31 December 2026, which provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this Environmental Authority.

(G32) The water management plan must be developed by an appropriately qualified person in accordance with the most recent edition of the administering authority's guideline *Preparation of Water Management Plans for Mining Activities* and must include at least the following components:

(a) contaminant source study;
(b) site water balance and model;
(c) water management system;
(d) uncontrolled release prevention and management measures;
(e) saline drainage prevention and management measures;
(f) acid rock drainage prevention and management measures;
(g) emergency and contingency planning; and
(h) monitoring and review.

(G33) 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.

Site Water Balance

(G34) The water balance model requested in condition G32(b) must be developed by 31 December 2026 and run for a simulation period for the following:

(a) weekly during the period November to March;
(b) monthly during other periods;
(c) promptly after each rainfall event greater than fifty (50) millimetres within a twenty-four (24) hour period within the relevant surface water containment area;
(d) with documentation of inputs and outputs from each run being stored and retrievable for a minimum period of one (1) year;
(e) performance in response to rainfall must be undertaken by an appropriately qualified person.

(f) assessments using the operational simulation water balance model must use a minimum of 100 years of historical rainfall data

Erosion and Sediment Control

(G35) An erosion and sediment control plan (ESCP), developed by an appropriately qualified person, must be implemented and maintained to prevent or minimise erosion and the release of sediment to receiving waters and the contamination of stormwater as a result of the carrying out of the mining activity.

(G36) 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 mining activity planned for the following year. The updated ESCP must be implemented prior to the commencement of any new stage of the mining activity.

(G37) The erosion and sediment control plan 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 mining activity or where contaminants or wastes are stored or handled;
(c) contaminated stormwater runoff, incident rainfall and leachate is collected; and treated, reused, or released in accordance with the conditions of this Environmental Authority;
(d) roofing or minimising the size of areas where contaminants or wastes are stored or 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.

(G38) Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contamination of stormwater.

Groundwater Monitoring Program

(G39) Prior to the commencement of mining activities, the holder of this Environmental Authority must develop and implement a groundwater monitoring program that must include:

(a) groundwater monitoring bore locations;
(b) justification for the location of the proposed groundwater monitoring locations, including, but not limited to;
    (i) sufficient background/reference monitoring sites, that are unaffected by the mining activity authorised under this Environmental Authority to allow scientifically justifiable conclusions on the level of impact from the mining activity;
    (ii) base flow assessment of all watercourses affected by mining activity; and
    (iii) sufficient number of monitoring bores to enable early detection of any groundwater contamination.
(c) monitoring of both shallow and deep groundwater and includes an adequate number of monitoring bores which provides sufficient spatial coverage to enable scientifically justifiable conclusions in relation to potential environmental impacts from the mining activity;
(d) provision for development of baseline groundwater quality, groundwater flow direction and rate and hydraulic conductivity. In addition, consideration must be given to how these parameters may change during the life of the mining project.
(e) characterisation of the potential impacts to the local groundwater system arising from the mining activity;
(f) representative groundwater samples for the aquifers being sampled;
(g) bore construction details; and

(h) findings from any resistivity studies undertaken at the licensed place.

(i) performance monitoring for the Northern MAW liner and seepage recovery system, with reporting of recovered seepage volumes against design assumptions.

(G40) The groundwater monitoring program specified in condition (G39) must be independently certified by an appropriately qualified person.

(G41) The Groundwater Monitoring Program must be reviewed on a regular basis 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.

Monitoring Bore Construction, Maintenance and Decommissioning

(G42) Groundwater monitoring bores must be constructed, maintained and decommissioned in accordance with methods prescribed in the latest edition of the Agriculture and Resource Management Council of Australia and New Zealand manual titled *Minimum Construction Requirements for Water Bores in Australia.*

(G43) Oil-based drilling fluids, oil-based additives, synthetic based drilling fluids or synthetic based additives must not be used in the construction of groundwater monitoring bores.

(G44) Current Material Safety Data Sheets for all substances used for the drilling of groundwater monitoring bores must be made available to the administering authority promptly upon request.

(G45) Remedial measures must be taken immediately if the holder of this Environmental Authority becomes aware that either monitoring bore construction, maintenance or decommissioning have resulted in a change in groundwater quality, groundwater levels or have caused the interconnection of aquifers.

Groundwater Monitoring

(G46) The holder of this Environmental Authority must not release contaminants to groundwater.

(G47) Groundwater quality and standing water level must be monitored:

(a) at the locations and frequencies defined in Schedule G – Table 9 (Groundwater Monitoring Locations and Frequency) and the plan provided in Schedule J – Plan 4 – Groundwater Monitoring Locations:

(b) for quality characteristics identified in Schedule G – Table 10 (Groundwater Quality Limits).

(G48) Monitoring of any future bores listed as Compliance Bores in Schedule G – Table 9 must begin at least 24 months prior to the commencement of mining activities in each mining area.

(G49) The holder of this Environmental Authority must complete a hydraulic testing program, including installation of monitoring bores and pumping tests, in the Proterozoic rock (AQ6) within the southern pit areas (Lady Clayre, Scanlan, Bedford) within at least 2 years prior to commencement of mining in each respective mining area.

(G50) At least six months prior to commencement of mining in the applicable mining areas, the holder of this Environmental Authority must submit an amendment application lodged pursuant to the *Environmental Protection Act 1994* to this environmental authority, nominating the TBA values for Monitoring Points BEDC05, BEDC06, BCRC07, BCRC08, BCRC09 and SCC04 as identified in Footnote 2 and 3 of Schedule G – Table 9 (Groundwater Monitoring Locations and Frequency).

NOTE: The application must include a hydrogeological assessment to evaluate the monitoring depths, and the frequency of monitoring.

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Schedule G – Table 9 (Groundwater Monitoring Locations and Frequency)

Bore ID	Mining area	Hydrostratigraphic unit	Coordinates (GDA2020 MGA zone 54)		Surface mAHD[1]	Screened Interval mAHD	Monitoring Frequency	Parameters
			Easting	Northing				
Compliance Bores								
BEDC02	Bedford [4]	Proterozoic rock (AQ6)	414871	7768071	TBA[2]	TBA[2]	Quarterly	Levels & quality
BEDC03	Bedford [4]	Proterozoic rock (AQ6)	415660	7767457	TBA[2]	TBA[2]	Quarterly	Levels & quality
BEDC04	Bedford [4]	Proterozoic rock (AQ6)	415609	7766458	TBA[2]	TBA[2]	Quarterly	Levels & quality
BEDC05	Bedford [4]	Proterozoic rock (AQ6)[3]	415947	7766838	TBA[3]	TBA[3]	Quarterly	Levels & quality
BEDC01	Bedford [4]	Proterozoic rock (AQ6)	415568	7766076	TBA[3]	TBA[3]	Quarterly	Levels & quality
BCRC01	Blackard [4]	Proterozoic rock (AQ6)	411706	7767615	TBA[2]	TBA[2]	Quarterly	Levels & quality
BCRC02	Blackard [4]	Proterozoic rock (AQ6)	412551	7766684	184	10 to 4	Quarterly	Levels & quality
BCRC03	Blackard [4]	Proterozoic rock (AQ6)	413015	7765504	TBA[2]	TBA[2]	Quarterly	Levels & quality
BCRC04	Blackard [4]	Proterozoic rock (AQ6)	413496	7764079	195	170 to -100	Quarterly	Levels & quality
BCRC05	Blackard [4]	Proterozoic rock (AQ6)	412130	7764937	TBA[2]	TBA[2]	Quarterly	Levels & quality
BCRC06	Blackard [4]	Proterozoic rock (AQ6)	410774	7765649	199	25 to 19	Quarterly	Levels & quality
BCRC07	Blackard [4]	Proterozoic rock (AQ6)	411027	7766925	TBA[3]	TBA[3]	Quarterly	Levels & quality
BCRC08	Blackard [4]	Proterozoic rock (AQ6)	413636	7763185	TBA[3]	TBA[3]	Quarterly	Levels & quality
BCRC09	Blackard [4]	Proterozoic rock (AQ6)	413281	7762253	TBA[3]	TBA[3]	Quarterly	Levels & quality
CS1 - AQ2	Graben	Gilbert River Fm (AQ2)	407810	7780332	151	119 to 110	Quarterly	Levels & quality
LCC01	Lady Clayre [4]	Proterozoic rock (AQ6)	409411	7753122	TBA[2]	TBA[2]	Quarterly	Levels & quality
LCC02	Lady Clayre [4]	Proterozoic rock (AQ6)	410861	7752649	TBA[2]	TBA[2]	Quarterly	Levels & quality
LCC03	Lady Clayre [4]	Proterozoic rock (AQ6)	410162	7752550	TBA[2]	TBA[2]	Quarterly	Levels & quality
LEC1	Little Eva	Proterozoic rock (AQ6)	410675	7772955	164	-39 to -45	Quarterly	Levels & quality
LEC2	Little Eva	Kajabbi Fm limestone (AQ3)	410356	7772733	165	132 to 114	Quarterly	Levels*
PSB2	Little Eva	Proterozoic rock (AQ6)	413929	7770241	195	56 to 50	Quarterly	Levels & quality
TSFB2	Little Eva	Proterozoic rock (AQ6)	413457	7768549	196	58 to 52	Quarterly	Levels & quality

Bore ID	Mining area	Hydrostratigraphic unit	Coordinates (GDA2020 MGA zone 54)		Surface mAHD[1]	Screened Interval mAHD	Monitoring Frequency	Parameters
			Easting	Northing				
TSFC01	Turkey Creek	Proterozoic rock (AQ6)	412657	7771000	188	34 to 28	Quarterly	Levels & quality
TSFC02	Little Eva	Proterozoic rock (AQ6)	411259	7770165	169	40 to 34	Quarterly	Levels & quality
SCC01	Scanlan [4]	Proterozoic rock (AQ6)	412885	7754274	TBA[2]	TBA[2]	Quarterly	Levels & quality
SCC02	Scanlan [4]	Proterozoic rock (AQ6)	412777	7755060	TBA[2]	TBA[2]	Quarterly	Levels & quality
SCC03	Scanlan [4]	Proterozoic rock (AQ6)	412109	7753600	TBA[2]	TBA[2]	Quarterly	Levels & quality
SCC04	Scanlan [4]	Proterozoic rock (AQ6)	413159	7756329	TBA[3]	TBA[3]	Quarterly	Levels & quality
TCKRC01	Turkey Creek	Proterozoic rock (AQ6)	411852	7773225	-27 to -33	TBA[2]	Quarterly	Levels & quality
TCKRC02	Turkey Creek	Proterozoic rock (AQ6)	412274	7772441	173	-31 to -37	Quarterly	Levels & quality
LC048	Lady Clayre	Proterozoic rock (AQ6)	409703	7752084	204	184 to 54	Quarterly	Levels & quality
NBC01	Graben	Alluvium (AQ1)	410501	7776032	159	149 to 146	Quarterly	Levels & quality
NBC02	Graben	Alluvium/Colluvium	410391	7775489	159	151 to 148	Quarterly	Levels & quality
NBMB008	Graben	Wallumbilla Fm (AT1)	410444	7775038	159	150 to 144	Quarterly	Levels & quality
NBMB009	Graben	Alluvium/Colluvium	410132	7775721	161	149 to 134	Quarterly	Levels & quality
CS1 - AT2	Graben	Kajabbi Fm mudstone (AT2)	407810	7780352	151	5 to -1	Quarterly	Levels*
CS1 - AQ4	Graben	Kajabbi Fm sandstone (AQ4)	407821	7780342	151	-359 to -419	Quarterly	Levels*
CS3 - AQ1	Graben	Alluvium (AQ1)	404496	7761669	190	179 to 173	Quarterly	Levels & quality
CS3 - AT2	Graben	Kajabbi Fm mudstone (AT2)	404475	7761667	190	-82 to -90	Quarterly	Levels*
CS3 - AQ4	Graben	Kajabbi Fm sandstone (AQ4)	404486	7761677	190	-129 to -201	Quarterly	Levels*
CS2	Graben	TBC – nominal coordinates	400153	7784109	151	TBA[2]	Quarterly	Levels
LER1016	Little Eva	Proterozoic rock (AQ6)	410333	7772396	164	132 to 114	Quarterly	Levels
LEC3A	Little Eva	Alluvium (AQ1)	410154	7772080	166	157 to 154	Quarterly	Levels and quality
LEC3B	Little Eva	Graben sediments –TBA	410168	7772073	166	-68 to -74	Quarterly	Levels*
LEC4A	Little Eva	Alluvium (AQ1)	410388	7771508	162	161 to 160	Quarterly	Levels and quality

Bore ID	Mining area	Hydrostratigraphic unit	Coordinates (GDA2020 MGA zone 54)		Surface mAHD[1]	Screened Interval mAHD	Monitoring Frequency	Parameters
			Easting	Northing				
LEC4B	Little Eva	Proterozoic rock (AQ6)	410372	7771513	166	2 to -4	Quarterly	Levels and quality
LEC5	Little Eva	Proterozoic rock (AQ6)	411203	7773475	164	125 to 119	Quarterly	Levels and quality
TCMB01	Turkey Creek	Proterozoic rock (AQ6)	412189	7771547	178	-35 to -41	Quarterly	Levels and quality
TCMB02	Turkey Creek	Proterozoic rock (AQ6)	412802	7771634	181	37 to 31	Quarterly	Levels and quality
BC277	Blackard	Proterozoic rock (AQ6)	412739	7764649	191	171 to 121	Quarterly	Levels and quality
BCR474	Blackard	Proterozoic rock (AQ6)	412174	7766696	184	164 to 60	Quarterly	Levels and quality
BCR773	Blackard	Proterozoic rock (AQ6)	413007	7765002	187	167 to 126	Quarterly	Levels and quality
SC030	Scanlan	Proterozoic rock (AQ6)	412395	7754050	194	174 to 88	Quarterly	Levels and quality
SC040	Scanlan	Proterozoic rock (AQ6)	412217	7754110	194	174 to -8	Quarterly	Levels and quality
Interpretation Bores								
LEI01	Little Eva	Proterozoic rock (AQ6)	413080	7772084	178	4 to -2	Quarterly	Levels & quality
LEI02	Little Eva	Alluvium (AQ1)	407557	7768896	TBA[2]	TBA[2]	Quarterly	Levels & quality
BEDI01	Bedford [4]	Proterozoic rock (AQ6)	414416	7767457	TBA[2]	TBA[2]	Quarterly	Levels & quality
LCI01	Lady Clayre [4]	Proterozoic rock (AQ6)	410511	7753440	TBA[2]	TBA[2]	Quarterly	Levels & quality
SCI01	Scanlan [4]	Proterozoic rock (AQ6)	412086	7755788	TBA[2]	TBA[2]	Quarterly	Levels & quality
SCI02	Scanlan [4]	Proterozoic rock (AQ6)	411436	7754822	TBA[2]	TBA[2]	Quarterly	Levels & quality

Notes: *Levels only for regulatory purposes. Groundwater quality should also be collected to validate graben conceptualisation.

[1] RL must be measured to the nearest 5cm from the top of the bore casing.

[2] TBA values – refer to Condition G50. to be provided to the administering authority six (6) months prior to the commencement of mining activities in each mining area.

[3] TBA value – refer to Condition G50. To be provided to the administering authority six (6) months prior to the commencement of mining activities in each mining area.

[4] Future bore as described by Condition G48.

(G51) Groundwater samples obtained from compliance bores specified in Schedule G – Table 9 (Groundwater Monitoring Locations and Frequency) must not exceed the Limit A specified in Schedule G – Table 10 (Groundwater Quality Limits) on any five (5) consecutive sampling occasions.

(G52) Groundwater samples obtained from compliance bores specified in Schedule G – Table 9 (Groundwater Monitoring Locations and Frequency) must not exceed the Limit B specified in Schedule G – Table 10 (Groundwater Quality Limits) on any three (3) consecutive sampling occasions.

(G53) If groundwater from compliance bores identified in Table 9 – Groundwater monitoring locations and frequency exceed the Contaminant Limits specified in Table 10 – Groundwater quality limits on five (5) consecutive monitoring occasions for Limit A and/or three (3) consecutive monitoring occasions for Limit B, the holder of the Environmental Authority must notify the administering authority via WaTERS and the Pollution Hotline within 24 hours of receiving the third and/or fifth consecutive exceedance result.

(G54) If monitoring results from water quality compliance bores listed in Table 9 - Groundwater monitoring locations and frequency, exceed the corresponding limit specified in Table 10 – Groundwater quality limits on five (5) consecutive monitoring occasions for Limit A and/or three (3) consecutive monitoring occasions for Limit B, the holder of this Environmental Authority must:

(a) within three (3) months of receiving the fifth for Limit A or third for Limit B consecutive exceedance, complete, and submit via WaTERS, an investigation undertaken by a suitably qualified person outlining:
  (i) details of the investigations carried out, (including but not limited to all monitoring results obtained as part of the investigation);
  (ii) whether the exceedance is a result of activities authorised under this environmental authority and, if so;
  (iii) whether environmental harm has occurred; and
  (iv) any action required to mitigate environmental harm.

If for unforeseen technical reasons WaTERS is unavailable, please contact the Pollution Hotline.

Schedule G – Table 10 (Groundwater Quality Limits)

Aquifer	Parameter[3]	Unit	Limit type	Bores	Limit A – derived from 80th percentile[1]	Limit B – derived from 95th percentile[2]
Alluvial (AQ1)	pH	pH units	Range	All bores	6.50-8.50	-
	EC (Field)	µS/cm	Maximum	NBMB009	2238	2394
				All remaining bores	1210	1289
	Aluminium	mg/L	Maximum	All bores	-	0.055
	Arsenic	mg/L	Maximum	All bores	-	0.013
	Cadmium	mg/L	Maximum	All bores	-	0.0002
	Chromium	mg/L	Maximum	All bores	-	0.001
	Cobalt	mg/L	Maximum	All bores	-	1.4
	Copper	mg/L	Maximum	All bores	0.003	0.005
	Fluoride	mg/L	Maximum	All bores	-	1.22

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Aquifer	Parameter[3]	Unit	Limit type	Bores	Limit A – derived from 80th percentile[1]	Limit B – derived from 95th percentile[2]
	Iron (Total)	mg/L	Maximum	All bores	-	0.28[4]
	Lead	mg/L	Maximum	All bores	-	0.0034
	Manganese	mg/L	Maximum	NBC01 and NBC02	0.012	0.040
				NBMB009	0.069	0.078
	Mercury	mg/L	Maximum	All bores	-	0.0006
	Molybdenum	mg/L	Maximum	All bores	0.004	0.005
	Nickel	mg/L	Maximum	All bores	0.004	0.006
	Selenium	mg/L	Maximum	All bores	-	0.005
	Silver	mg/L	Maximum	All bores	0.00018	0.00106
	Sulphate	mg/L	Maximum	NBC01 and NBC02	41	46
				NBMB009	465	565
				All remaining bores	-	46[4]
	Total Nitrogen	mg/L	Maximum	All bores	3.9	4.3
	Total Phosphorus	mg/L	Maximum	All bores	0.19	0.70
	Uranium	mg/L	Maximum	NBC01 and NBC02	0.0221	0.0253
				NBMB009	0.0028	0.0046
				All remaining bores	0.0230[4]	0.0253[4]
	Zinc	mg/L	Maximum	NBC01 and NBC02	0.150	0.205
				NBMB009	0.192	0.275
				All remaining bores	0.142[4]	0.225[4]
	Major ions (excluding sulphate)			All bores	For interpretation purposes only	
	DOC			All bores		

Aquifer	Parameter[3]	Unit	Limit type	Bores	Limit A – derived from 80th percentile[1]	Limit B – derived from 95th percentile[2]
Proterozoic rock aquifer (AQ6) – Northern mining areas (LE, BLK, TCK, TSF/plant)	pH	pH units	Range	All bores	6.50-8.50	-
	EC	µS/cm	Maximum	LE bores	3620[4]	4170
				TSF Process bores	945[4]	978[4]
				TCK bores	2108[4]	2236[4]
				BLK bores	3718[4]	4162[4]
	Aluminium	mg/L	Maximum	All bores	0.02	0.04
	Arsenic	mg/L	Maximum	All bores	0.008	0.018
	Cadmium	mg/L	Maximum	All bores	0.0002	0.0004
	Chromium	mg/L	Maximum	All bores	0.001	0.002
	Cobalt	mg/L	Maximum	All bores	0.001	0.002
	Copper	mg/L	Maximum	LE bores	0.005	0.012
				TSF Process bores	0.005	0.007
				TCK bores	0.004	0.006
				BLK bores	0.091	0.202[4]
	Fluoride	mg/L	Maximum	LE bores	2.5	3.7
				TSF Process bores	1.2	1.3
				TCK bores	4.1[4]	4.6[4]
				BLK bores	5.0[4]	5.5[4]
	Iron (Total)	mg/L	Maximum	All bores	0.07	0.33
	Lead	mg/L	Maximum	All bores	0.001	0.002
	Manganese	mg/L	Maximum	All bores	0.486	1.428
	Mercury	mg/L	Maximum	All bores	-	0.00005
	Molybdenum	mg/L	Maximum	All bores	0.019	0.045
	Nickel	mg/L	Maximum	All bores	0.001	0.002
	Selenium	mg/L	Maximum	All bores	-	0.010[4]
	Silver	mg/L	Maximum	All bores	-	0.00005
	Sulphate	mg/L	Maximum	LE bores	627	731

Aquifer	Parameter[3]	Unit	Limit type	Bores	Limit A – derived from 80th percentile[1]	Limit B – derived from 95th percentile[2]
				TSF Process bores	11	15
				TCK bores	20	26
				BLK bores	220	297
	Total Nitrogen	mg/L	Maximum	All bores	2.6	3.6
	Total Phosphorus	mg/L	Maximum	All bores	0.29	0.665
	Uranium	mg/L	Maximum	All bores	0.04500[4]	0.14835[4]
	Zinc	mg/L	Maximum	All bores	0.033[4]	0.147[4]
	Major ions (excluding sulphate)			All bores	For interpretation purposes only	
	DOC			All bores		
Proterozoic rock aquifer (AQ6) – Southern mining areas (SC, LC)	pH	pH units	Range	All bores	6.50–8.50	-
	EC	µS/cm	Maximum	SC bores	3728[4]	4535[4]
				LC bores	562	575
	Aluminium	mg/L	Maximum	All bores	0.010[4]	0.017[4]
	Arsenic	mg/L	Maximum	All bores	0.006[4]	0.029[4]
	Cadmium	mg/L	Maximum	All bores	0.0002[4]	0.0004[4]
	Chromium	mg/L	Maximum	All bores	-	0.001
	Cobalt	mg/L	Maximum	All bores	0.0010[4]	0.0020[4]
	Copper	mg/L	Maximum	SC bores	0.1530[4]	0.3870[4]
				LC bores	0.0036	0.0064
	Fluoride	mg/L	Maximum	All bores	1.1	1.3
	Iron (Total)	mg/L	Maximum	All bores	0.05	0.06
	Lead	mg/L	Maximum	All bores	0.0010	0.0020
	Manganese	mg/L	Maximum	All bores	0.154	0.967
	Mercury	mg/L	Maximum	All bores	-	0.00005
	Molybdenum	mg/L	Maximum	All bores	0.007	0.010
	Nickel	mg/L	Maximum	All bores	-	0.001
	Selenium	mg/L	Maximum	SC bores	0.015[4]	0.019[4]

Aquifer	Parameter[3]	Unit	Limit type	Bores	Limit A – derived from 80th percentile[1]	Limit B – derived from 95th percentile[2]
				LC bores	-	0.010[4]
	Silver	mg/L	Maximum	All bores	0.00005	0.00010
	Sulphate	mg/L	Maximum	SC bores	784[4]	971[4]
				LC bores	57	59
	Total Nitrogen	mg/L	Maximum	All bores	1.4	4.4[4]
	Total Phosphorus	mg/L	Maximum	All bores	0.17	0.46
	Uranium	mg/L	Maximum	SC bores	0.0580[4]	0.0660[4]
				LC bores	0.0240	0.0353
	Zinc	mg/L	Maximum	SC bores	0.087[4]	0.155[4]
				LC bores	0.012[4]	0.021[4]
	Major ions (excluding sulphate)			All bores	For interpretation purposes only	
	DOC			All bores		

Notes:

[1]Limit A is derived from the 80th percentile of site-specific data or a default guideline and relates to any 5 consecutive sampling occasions.

[2]Limit B is derived from the 95th percentile of site-specific data or a default guideline and relates to any 3 consecutive sampling occasions.

[3]Both total and dissolved fraction of metals/metalloids are to be monitored. Limits apply to the dissolved component only.

[4]Interim Limits. As new bores are established, limits must be reviewed to ensure the protection of the groundwater quality, as per condition G55.

(G55) All values identified in accordance with footnote 4 as 'interim limits' in Schedule G - Table 10, must be revised, via an amendment application under the *Environmental Protection Act 1994*, prior to the commencement of mining activities in the mining area where the monitoring bore is located

NOTE: The raw data (at least 24 months) must be provided with the calculated site-specific limit values.

Annual Groundwater Monitoring Report

(G56) The holder of this Environmental Authority must complete an annual groundwater monitoring report by 1 June each year and submit this report to the administering authority on request. The report must be prepared by an appropriately qualified person and must address the following requirements as a minimum:

(a) analysis of groundwater chemistry and hydrogeological data for all groundwater monitoring bores required in condition (G39);

(b) identify exceedance of any contaminant limits listed in Schedule G – Table 10 (Groundwater Quality Levels);

(c) historical data analysis and identification of trends that could impact groundwater values;

(d) discuss effectiveness of the current groundwater monitoring regime and any improvements that could be made to ensure early detection of impacts to groundwater;

(e) detail proposed actions and timeframes to undertake further investigation of potential environmental

impacts for any exceedance identified;

(f) detail proposed mitigation measures for any detected impact to groundwater resulting from the mining activity;

(g) changes in groundwater levels plotted as a function of time to identify seasonal patterns and possible draw-down effects;

(h) groundwater elevation contours and flow direction; and

(i) interpretation and discussion of exceedance of any contaminant limits listed in Schedule G – Table 10 (Groundwater Quality Levels) and the implications for compliance with this Environmental Authority.

(G57) The method of sampling of groundwater must comply with that set out in the latest edition of the Administering Authority's Water Quality Sampling Manual.

Saline, Acid and Metalliferous Drainage

(G58) The holder of this Environmental Authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline, acid and/or metalliferous mine drainage as a result of the mining activity.

Seepage Management

(G59) Prior to placement of waste rock in the Scanlan WRD, the holder must complete the following:

(a) geochemical characterisation of proposed waste rock materials for the Scanlan pit, including static and kinetic testing;

(b) contaminant transport modelling for the seepage pathway between Scanlan WRD and Dugald River; and

(c) installation of a minimum of two groundwater monitoring bores along the modelled seepage pathway between the Scanlan WRD and Dugald River.

(G60) By 30 June 2028, the holder of this Environmental Authority must:

(a) incorporate all newly constructed monitoring bores from the 2025–2026 drilling program into the groundwater model history-matching dataset;

(b) include a minimum of 24 months of continuous water level data from each new bore before incorporation; and

(c) revise the model achievement and history-matching performance for all hydrostratigraphic units compared with 2025 limited calibration data.

(d) Address requirements of condition C30 c) and d) as part of the numerical groundwater model update.

(G61) If the revision under condition G60(c) impacts on the predictions of impact and seepage capture zone, a report on the implications and recommended changes to the monitoring network and mitigations measures must be prepared by an AQP and provided to the administering authority within 6 months of completing the revision under G60(c).

Water Extraction

(G62) The annual borefield extraction must not exceed the following limits without prior approval from the administering authority:

(a) 7,600 ML/year for the first 6 years of borefield operation; and

(b) 5,200 ML/year for the remainder of the life of mine.

Total combined extraction from all production bores must not exceed the limits specified within the relevant

period under (a) or (b) in any water year.

END OF CONDITIONS FOR SCHEDULE G

SCHEDULE H – SEWAGE TREATMENT

Sewage Treatment – for Irrigation

(H1) Treated sewage effluent may only be released to land within the nominated irrigation areas via the locations identified in Schedule H – Table 1 (Sewage Treatment Plant and Effluent Disposal) and in accordance with the contaminant release limits stated in Schedule H – Table 2 (Sewage Effluent Contaminant Release Limits) and the conditions of this Environmental Authority.

Schedule H – Table 1 (Sewage Treatment Plant and Effluent Disposal)

Description	Coordinates (GDA2020 MGA zone 54)		Location
	Easting	Northing	
STP release point 1	416973	7769234	ML90166
STP release point 2	417102	7769689	ML90166

(H2) All sewage effluent released to land must be monitored at the frequency and for the parameters specified in Schedule H – Table 2 (Sewage Effluent Contaminant Release Limits).

Schedule H – Table 2 (Sewage Effluent Contaminant Release Limits)

Contaminant	Release limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD) (mg/L)	20	Maximum	Weekly
Total Suspended Solids (mg/L)	30	Maximum	
Nitrogen (mg/L)	30 10 5	Maximum 50th percentile short term 50th percentile long term	
Phosphorus	15 8 5	Maximum 50th percentile short term 50th percentile long term	
pH	6.0 - 8.5	Range	
E coli (Organisms / 100ml)	100	Maximum	Fortnightly
Faecal Coliforms[1] (CFU / 100ml)	1000	Maximum	

(H3) Treated sewage effluent must only be dispersed in accordance with the following outcomes:

(a) efficient application of effluent utilising 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:
(i) subterranean flows of effluent to waters;
(ii) impacts on the groundwater resource through infiltration;
(i) 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;
(iii) surface ponding;
(iv) spray drift or overspray from effluent disposal areas;
(v) and 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.

(H4) When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store or lawfully dispose of effluent.

(H5) The daily volume of effluent released to land must be measured and records kept of the volumes of effluent released.

Sewage Treatment Management Plan

(H6) A Sewage Treatment Management Plan that provides for the proper and effective management of actual and potential environmental impacts resulting from the operation of sewage treatment plants must be developed prior to commencement of mining activities to ensure compliance with the conditions of the Environmental Authority.

(H7) The Sewage Treatment Management Plan required in condition H6 must include but not be limited to:

(a) a topographical map of suitable scale clearly showing the licensed place and surrounding land likely to be affected by the sewage treatment plants along with the location of any sensitive receptors;
(b) a site plan including the Q100 flood level in conjunction with the licensed place boundaries and infrastructure, buffer zones and irrigation areas;
(c) detail on any potential impact on groundwater and surface water from the discharge of effluent;
(d) strategies for managing and minimising the impact on surface water and groundwater;
(e) modelling to determine the irrigation frequency, application rate and minimum irrigation area to minimise environmental harm; and
(f) proposed surface and groundwater monitoring to identify any impacts from the irrigation of treated effluent.

Alarms

(H8) Sewage treatment infrastructure must be fitted with stand-by pumps and pump-failure alarms as well as high level alarms to warn of imminent overflow.

END OF CONDITIONS FOR SCHEDULE H

SCHEDULE I - DEFINITIONS

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

"50th percentile long term" means that not more than twenty-six (26) of the measured values of the quality characteristic are to exceed the stated release limit for any fifty-two (52) consecutive samples where:

(a) the consecutive samples are taken over a one (1) year period;

(b) the consecutive samples are taken at approximately equal periods; and

(c) the time interval between the taking of each consecutive sample is not less than three (3) days or greater than eleven (11) days.

"**50th percentile short term"** means not more than five (5) of the measured values of the quality characteristic are to exceed the stated release limit for any ten (10) consecutive samples for a release/monitoring point at any time during operation.

"acceptance criteria" means the measures by which actions implemented are deemed to be complete. The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly disturbed by the environmentally relevant activities. Acceptance criteria may include information regarding:

(a) stability of final land forms in terms of settlement, erosion, weathering, pondage and drainage;

(b) control of geochemical and contaminant transport processes;

(c) quality of runoff waters and potential impact on receiving environment;

(d) vegetation establishment, survival and succession;

(e) vegetation productivity, sustained growth and structure development;

(f) fauna colonisation and habitat development;

(g) ecosystem processes such as soil development and nutrient cycling, and the re-colonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;

(h) microbiological studies including re-colonisation by mycorrhizal fungi, microbial biomass and respiration;

(i) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;

(j) resilience of vegetation to disease, insect attack, drought and fire;

(k) vegetation water use and effects on ground water levels and catchment yields.

"acid and metalliferous mine drainage (AMD)" means any contaminated release emanating from a mining operation formed through a series of chemical and biological reaction, when geological strata is disturbed and exposed to oxygen and moisture as a result of the mining activity.

"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 the 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*.

"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.

"bunded" means within bunding consistent with Australian Standard 1940.

"certified", with respect to watercourse diversions, means assessed and approved by a suitably qualified and experienced person. In relation to 'as constructed' drawings and specifications, the certification must be by the suitably qualified person who supervised the construction of the watercourse diversion, or re-establishment of the watercourse.

"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))

"CFU" means colony forming units.

"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.

"control measure" means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

"dam" means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.

"dam crest volume" means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (e.g. via spillway).

'design plan' with respect to a creek diversion is a document that contains the design, operation, monitoring and revegetation criteria of a watercourse diversion that addresses the outcomes stated in conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

(a) required information under a functional design

(b) the location, function and description of geomorphic and riparian vegetation features within the proposed watercourse diversion

(c) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion

(d) a revegetation and vegetation management plan (a revegetation plan) for the diversion

(e) engineering drawings depicting the physical attributes and dimensions of the diversion

(f) (if relevant) the staged development of a permanent watercourse diversion including the proposed use of temporary watercourse diversions with identified lifespans

(g) all investigation and other reports relied on by the design

(h) plans and specifications sufficient to complete construction and revegetation in accordance with the design.

"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.

"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.*

"flowable substance" means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

"functional design" is a document that contains 'conceptual' information about the design, operation and revegetation criteria of a watercourse diversion that addresses the outcomes stated in the conditions on the environmental authority relating to the diversion. The document should include, but not be limited to:

(a) geomorphic and vegetation assessment of the existing watercourse

(b) hydrologic conditions of the existing watercourse

(c) the proposed watercourse diversion route

(d) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion.

"general waste" means waste other than regulated waste.

"hazardous waste" means a substance, whether liquid, solid or gaseous that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause environmental harm.

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

"hydraulic performance" means the capacity of a regulated dam to contain or safely pass flowable substances based on design criteria specified for the relevant consequence category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933)*.

"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.

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"levee" means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.

"licensed place" means the mining tenements detailed on page 1 of this Environmental Authority.

"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.

"metalliferous mine drainage" means any waters, contaminated with metals / metalloids or other contaminants as a result of the mining activity.

"mg/L" means milligrams per litre.

"Mining activities" means the carrying out of mining, including the extraction, processing, stockpiling and transportation of ore on the site

"mine affected water (MAW)"

(a) means the following types of water:

(i) pit water, tailings dam water, processing plant water

(ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 if it had not formed part of the mining activity

(iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water

(iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated

(v) groundwater from the mine's dewatering activities

(vi) a mix of mine affected water (under any of paragraphs i)-v)) and other water.

(b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:

(i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success, or

(ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:

A. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site; and

B. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff, or

(iii) both 2) a) and b) above.

"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.

"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).

"permanent watercourse diversion" is a man-made structure that incorporates the geomorphologic, hydraulic, hydrologic and ecological components of a local watercourse and is designed, constructed, operated and maintained according to an engineering standard that ultimately achieves a self-sustaining watercourse able to function without features or characteristics that rely on ongoing maintenance or that impose a financial or other burden on the proponent, government or the community.

"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.

"release event" means a surface water discharge from water storages or contaminated areas on the licensed place.

"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.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"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 form 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 PREQ 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.

"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.

"void" means any constructed, open excavation in the ground.

"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*.

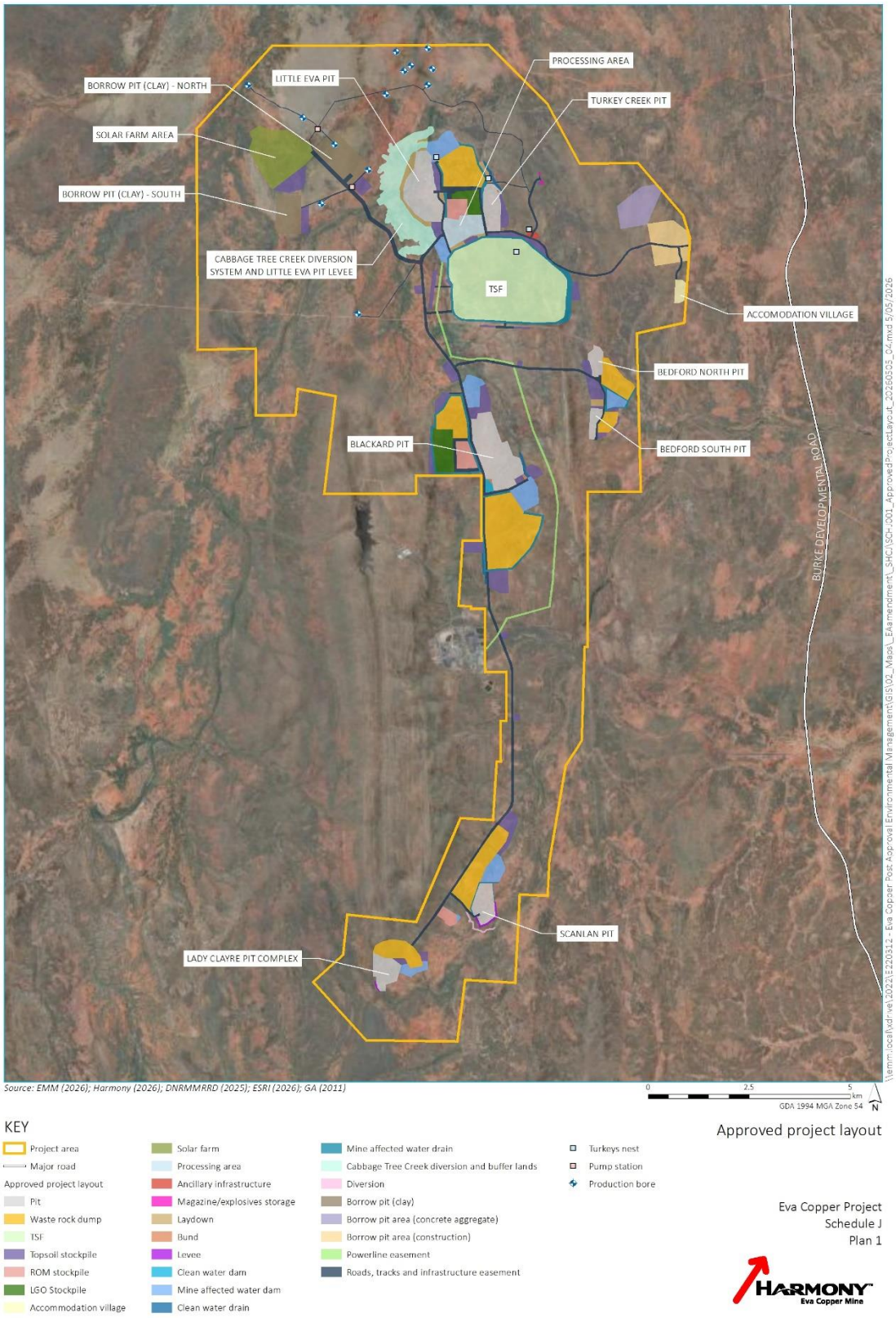
"waters" – includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside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

"wet season" means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

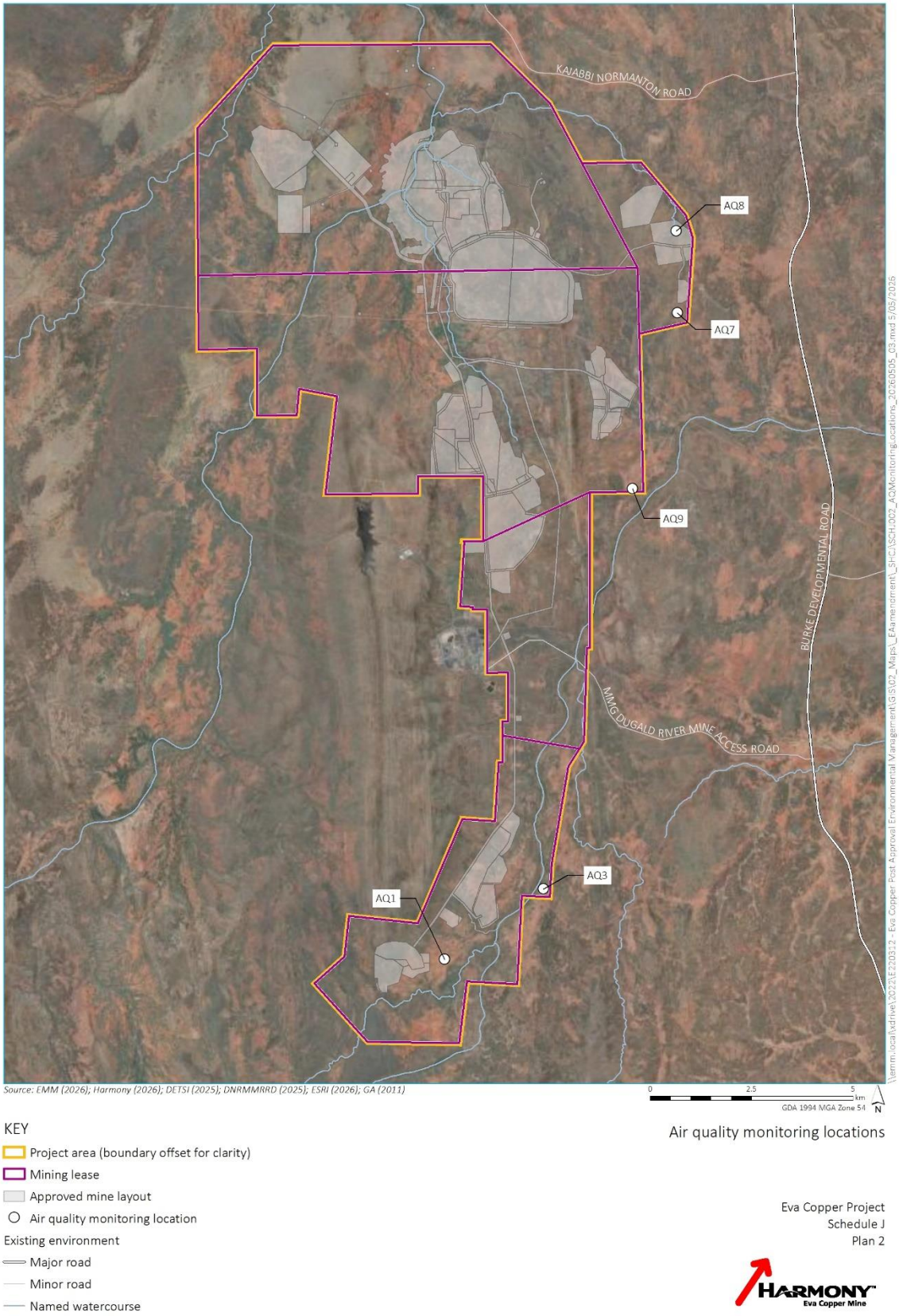
END OF DEFINITIONS FOR SCHEDULE I

SCHEDULE J – PLANS

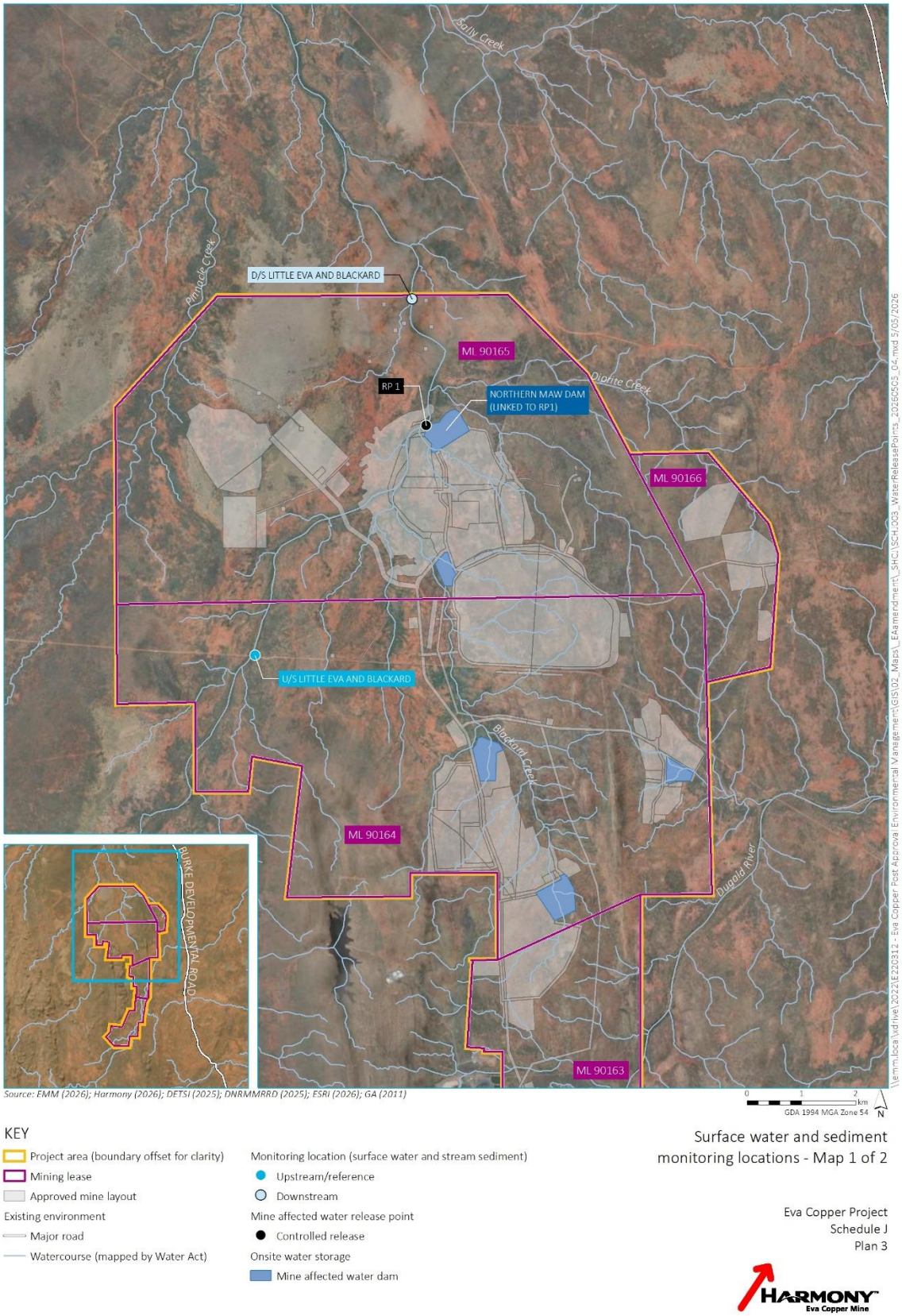
Plan 1 – Project Layout



Plan 2 – Air Quality Monitoring Locations



Plan 3 – Surface Water and Sediment Monitoring Locations (Map 1)



Source: EMM (2026); Harmony (2026); DETSI (2025); DNRMMRRD (2025); ESRI (2026); GA (2011)

0 1 2 km

GDA 1994 MGA Zone 54

N

KEY

- Project area (boundary offset for clarity)
- Mining lease
- Approved mine layout

Existing environment

- Major road
- Watercourse (mapped by Water Act)

Monitoring location (surface water and stream sediment)

- Upstream/reference
- Downstream

Mine affected water release point

- Controlled release

Onsite water storage

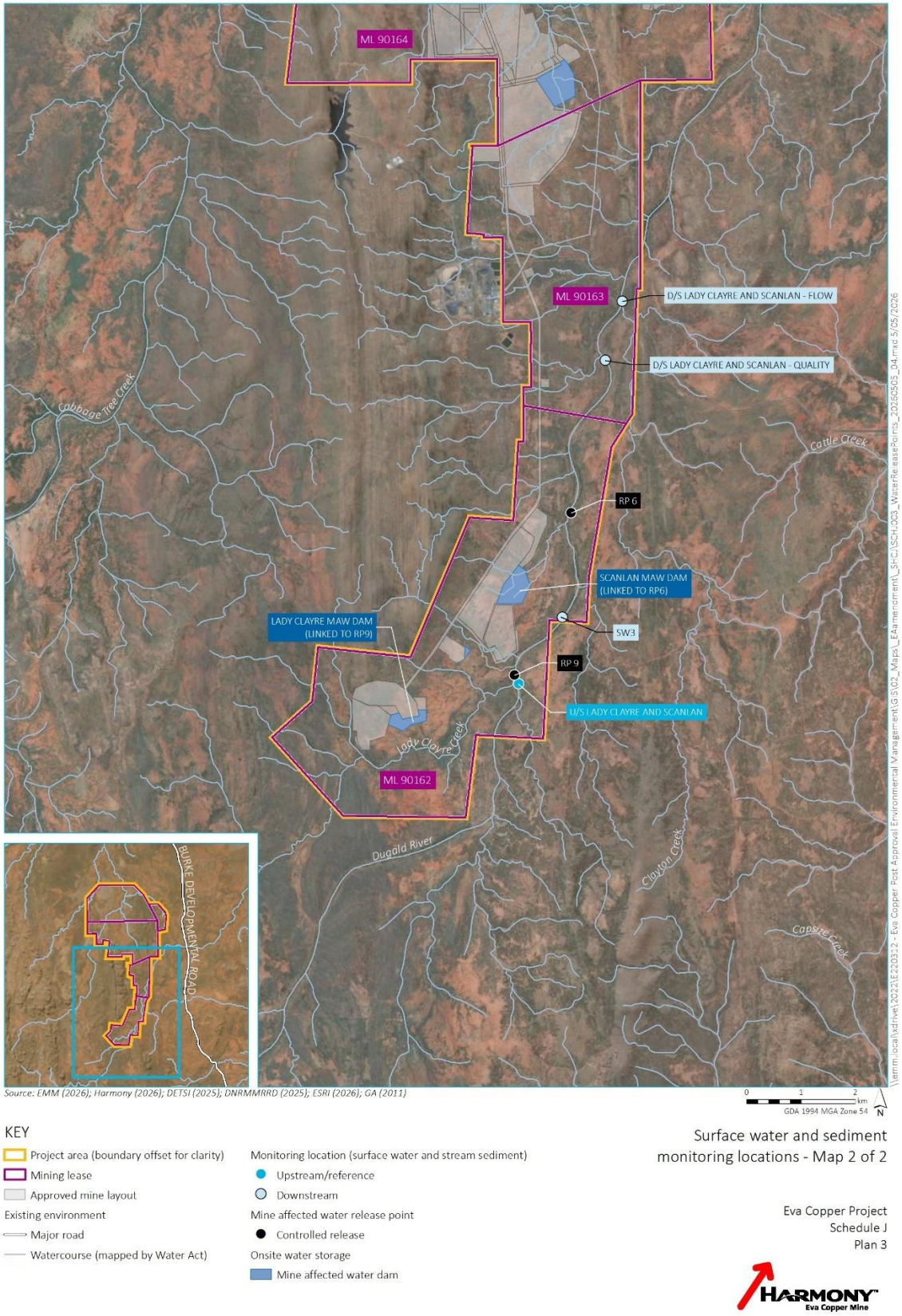
- Mine affected water dam

Surface water and sediment monitoring locations - Map 1 of 2

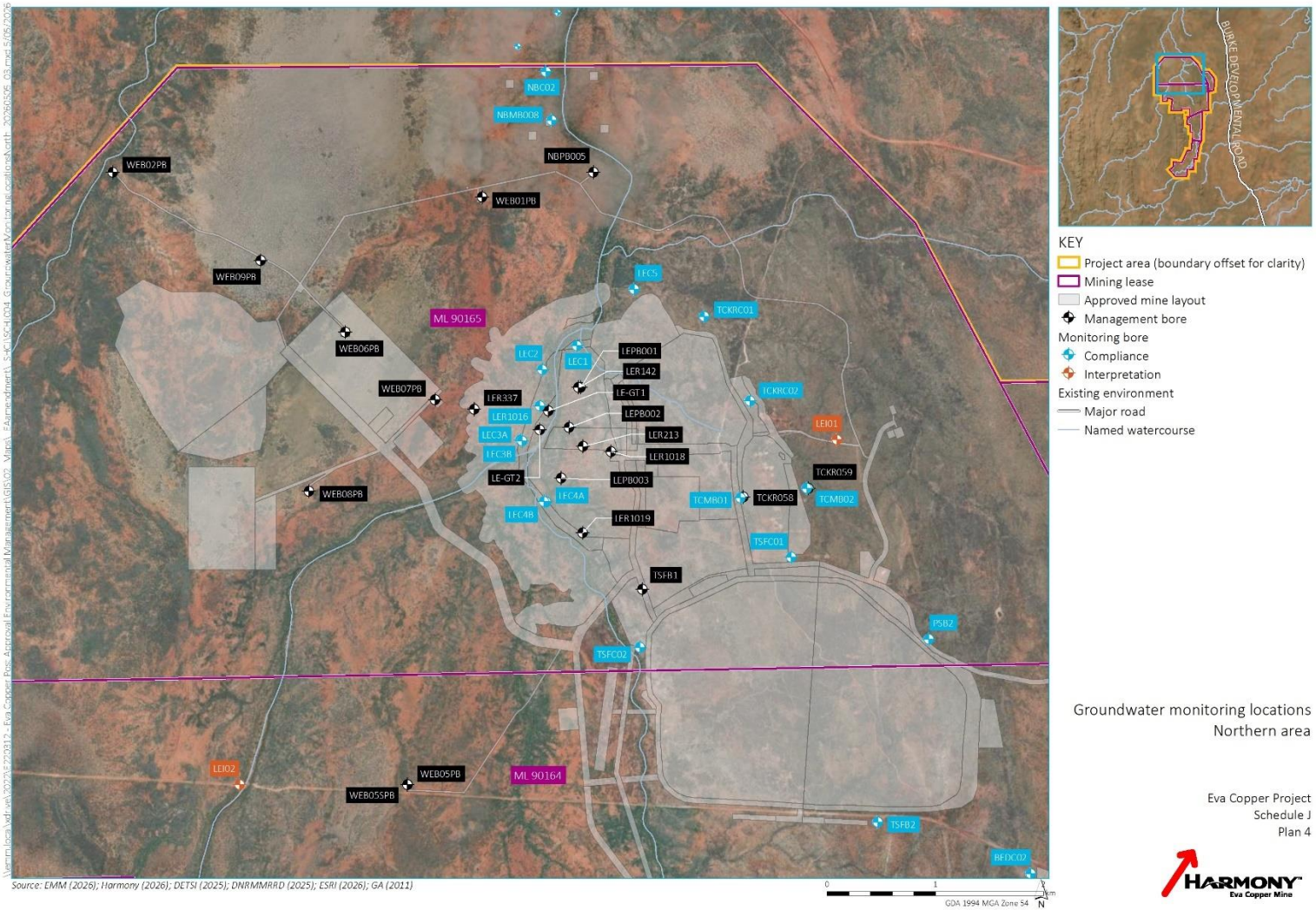
Eva Copper Project
Schedule J
Plan 3

HARMONY Eva Copper Mine

Plan 3 – Surface Water and Sediment Monitoring Locations (Map 2)



Plan 4 – Groundwater Monitoring Locations (Northern Area)

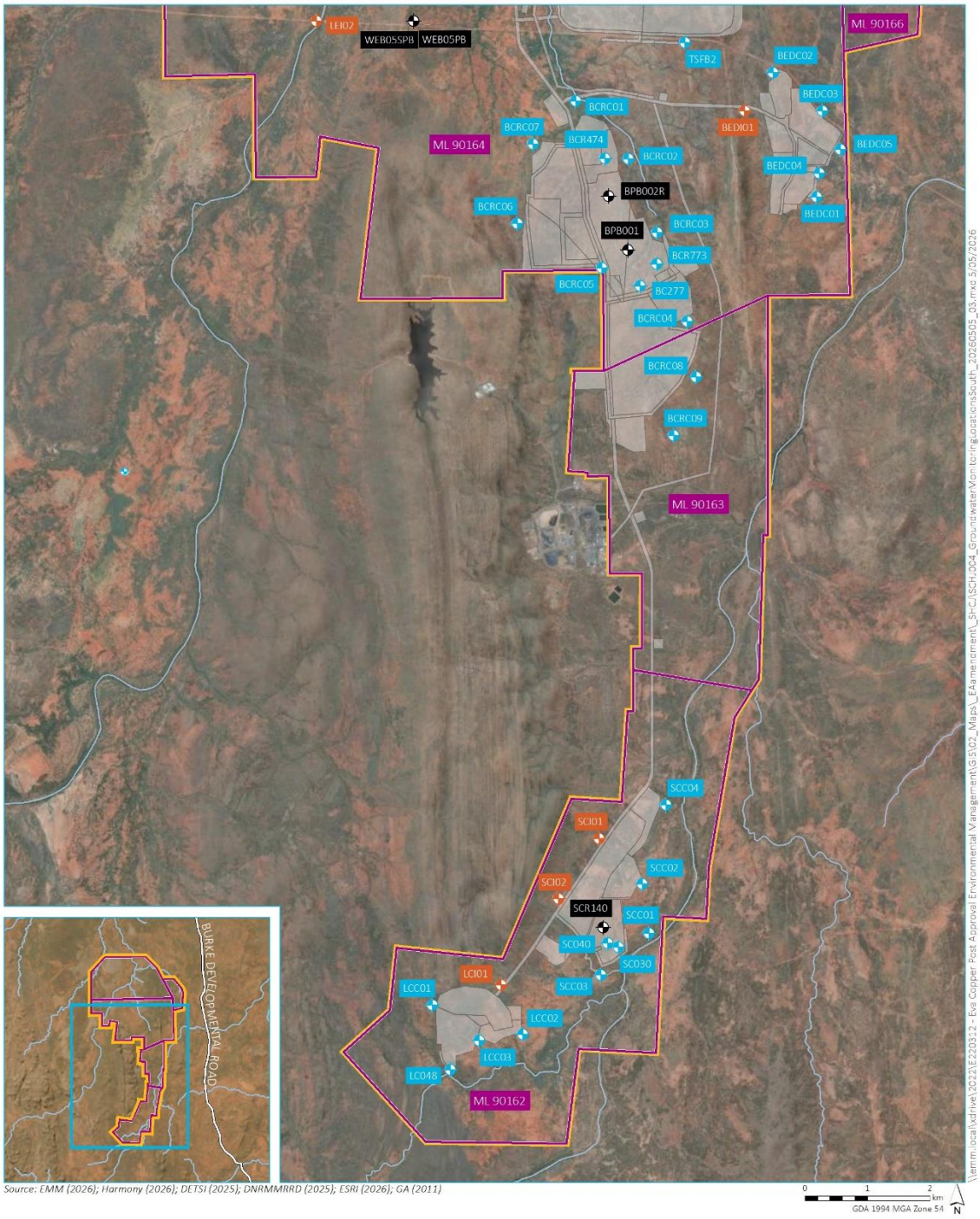


Groundwater monitoring locations
Northern area

Eva Copper Project
Schedule J
Plan 4

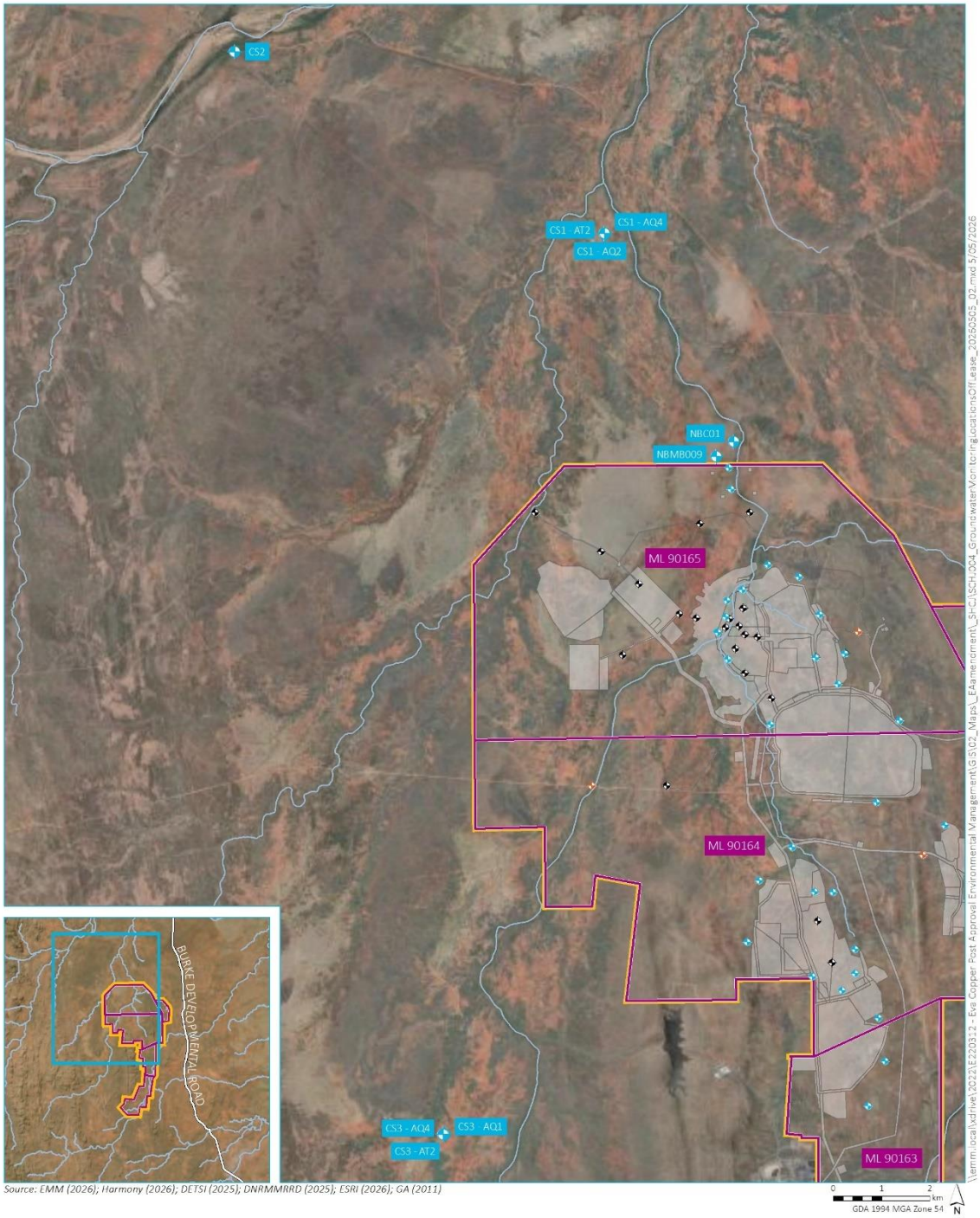
DELIVERING FOR QUEENSLAND
Queensland Government

Plan 4 – Groundwater Monitoring Locations (Southern Area)



DELIVERING FOR QUEENSLAND
Queensland Government

Plan 4 – Groundwater Monitoring Locations (Off-lease)



KEY

- Project area (boundary offset for clarity)
- Mining lease
- Approved mine layout

Existing environment

- Major road
- Named watercourse
- Management bore

Monitoring bore

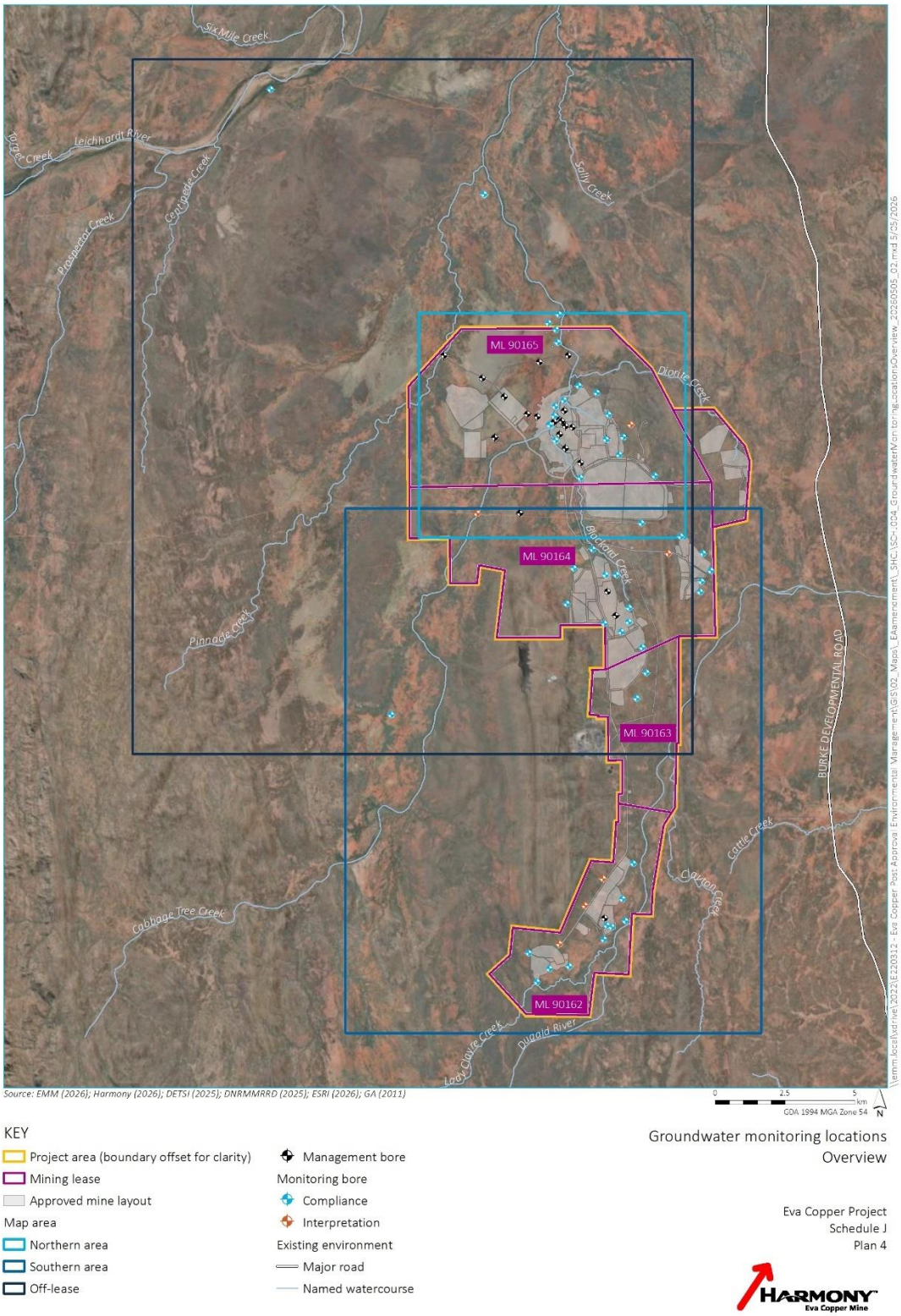
- Compliance
- Interpretation

Groundwater monitoring locations
Off-lease

Eva Copper Project
Schedule J
Plan 4

HARMONY Eva Copper Mine

Plan 4 – Groundwater Monitoring Locations (Overview)



END OF SCHEDULE J

END OF ENVIRONMENTAL AUTHORITY