Permit

Environmental Protection Act 1994

Environmental authority BRMN0037

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

Environmental authority number: BRMN0037

Environmental authority takes effect on 29 January 2025.

The anniversary date of this environmental authority is 1 February each year.

Environmental authority holder(s)

Name(s)	Registered address
AGRIFLEX PTY LTD	Level 10 44 Waymouth St ADELAIDE SA 5000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 21: A mining activity that is an ineligible ERA, other than a mining activity mentioned in items 9 to 20. Ancillary 31 - Mineral processing 2: Processing, in a year, the following quantities of mineral products, other than coke (b) 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)(a) - less than 50,000t. ERA 60(2)(a) - Waste Disposal for operating a facility for disposing of, in a year, less than 2,000t of general waste.	ML5542

Queensland Government

Environmentally relevant activity/activities	Location(s)
Ancillary 63 - Sewage Treatment - 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of— (a) 21 to 100EP, (i) 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).

Contaminated land

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

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (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 contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

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 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, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the Planning Act 2016 or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken 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 environmental authority.

RMcAuley	29 January 2025
Signature	Date

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

Enquiries:
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Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, 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 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)

Schedule A - General

A1 This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.

A2 In carrying out activities under this environmental authority, all reasonable and practical measures must be taken to prevent or minimise environmental harm.

A3 In carrying out the activities authorised by this environmental authority, the holder of this environmental authority must comply with Schedule A –Table A1 (Authorised disturbance areas), represented in Schedule J - Figure 1 (Mining lease overview) and Schedule J - Figure 2 (Project site –layout overview).

Table A1 – Authorised disturbance areas

Mine domain	Mine feature name	Map reference (GDA94 MGA zone 54)		Maximum area of disturbance (ha)
		Easting	Northing	
Mine infrastructure	Process Plant and infrastructure (inc STP)	323497	759542	6.68
	Bore storage tank	321689	7603035	0.13
Pit	Open-cut pit [1] (including ramps and bunds)	323486	7595957	53.90
Waste Disposal Facility	Waste disposal facility	323270	7595979	0.18
Run of mine (ROM)	ROM Pad [2]	323306	7595617	9.70
Reverse Osmosis Brine Storage Facility (ROBSF)	ROBSF (TSF#3) [2]	322972	7595810	1.04
Tailings storage facility (TSF)	TSF and TSF Bund [1] (Stage 1 Operations TSF#1)	323509	7595830	2.93
	Interim TSF Cell (Stage 2.1 Operations TSF#2)	323083	7595639	0.70
	TSF (Main TSF)	322974	7595162	42.01
	TSF#4	322919	7595958	1.61
Waste Rock Dump (WRD)	West WRD	322703	7595898	3.82
	Southeast WRD	323909	7595418	5.21

Borrow areas	Borrow pit	323636	7595401	0.71
Stockpiles	Mine area topsoil stockpile	323026	7595620	3.08
	Mine area topsoil stockpile (ROBSF perimeter)	322972	7595809	1.12
	Main TSF area topsoil stockpile	323595	7595274	4.84
	TSF#4 area topsoil stockpile	322984	7595990	1.53
Roads and Tracks	Roads, tracks and park-up area	Linear		18.17
Exploration	Exploration activities	Costeans, drill holes and associated exploration disturbance.		0.58

[1] The TSF and TSF Bund (Stage 1 Operations TSF#1) area is nested within the Open-cut pit area. The structure's contents will be fully removed to the TSF (Main TSF) as open pit mining progresses. For information, the footprint area of this structure is also accounted for (duplicated) within the tabled Open-cut pit area.

[2] The Run of Mine (ROM Pad) and Reverse Osmosis Brine Storage Facility (ROBSF) are authorised to be mined prior to construction and are therefore under the mine domain for the Open-cut pit area.

A4 No more than 1.3 million tonnes of phosphate ore is to be extracted in a year.

A5 No more than 869,000 tonnes (dry) of phosphate concentrate is to be processed on site in a year.

Open cut Pit

A6 The maximum depth of the open cut pit must not exceed 31 metres or intercept groundwater.

Plant and equipment

A7 The holder of this environmental authority must ensure that an appropriately qualified person:

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

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

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

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

A8 Records of installation, calibration and maintenance carried out under condition A7 must be kept.

Record keeping

A9 All reports, plans, information and records required by the conditions of this environmental authority must be provided to the administering authority, or nominated delegate upon request, within an acceptable timeframe and in the specified format.

A10 All reports, plans, information and records that are required by the conditions of this environmental authority must be kept for a minimum of five (5) years.

Monitoring

A11 An appropriately qualified person(s) must monitor, record and interpret all parameters that are required to be monitored by this environmental authority.

A12 The following minimum 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 was taken;

(b) the location co-ordinates and description of where the sample was taken;

(c) the monitoring results;

(d) details of any exceedances of the conditions of this environmental authority; and

(e) any other pertinent details of relevance to interpreting the sampling results (i.e. stream flow, wind conditions or any unusual observations such as odour or colouration).

A13 Unless otherwise authorised in writing by the administering authority, all laboratory analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) accreditation for such analyses. The only exception to this condition is for in situ monitoring of electrical conductivity (EC) and pH.

A14 Environmental monitoring results and information must be kept until surrender of this environmental authority.

Risk Management

A15 By 1 March 2019, the holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.

Storage and Handling of Flammable and Combustible Liquids

A16 All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with Australian Standards.

Notification of Emergencies, Incidents and Exceptions

A17 The holder of this environmental authority must notify the administering authority by telephone or by written notice within 24 hours after becoming aware of any emergency, incident or exception which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

A18 Within 10 business days following the initial notification of an emergency, incident or exception, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

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

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

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

Complaints

A19 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.

A20 Records of all environmental complaints, investigations undertaken and measures implemented must be made available for inspection by the administering authority on request.

A21 The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within 10 business days of completion of the investigation, or no later than 10 business days after the end of the timeframe nominated by the administering authority to undertake the investigation.

Third-party reporting

A22 The holder of this environmental authority must:

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

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

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

Exploration

A22 The holder of the environmental authority must ensure that all exploration activities undertaken on the mining lease comply with the standard conditions contained within the Eligibility criteria and standard conditions for exploration and mineral development projects – Version 2 (ESR/2016/1985, version 2.00). Where there is an inconsistency between the standard conditions and the conditions of this environmental authority, the conditions of the environmental authority prevail.

A23 Standard condition A13 of the department's Eligibility criteria and standard conditions for exploration and mineral development projects – Version 2 (ESR/2016/1985, version 2) is varied to reduce the

distance precluding activities involving machinery from being carried out in proximity to category B environmentally sensitive areas from 500m to 100m in respect to exploration drilling activities.

Transition to new standards

A24 Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must:

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

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

END OF CONDITIONS FOR SCHEDULE A

Schedule B - Air

General

B1 The release of point source and fugitive emissions from the mining activities must not cause environmental harm at any sensitive place or commercial place.

Dust and Particulate Monitoring

B2 The environmental authority holder shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:

(a) dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of *Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method*.

(b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, for no more than five exceedances recorded each year, when monitored in accordance with the most recent version of either:

1. *Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 high volume sampler with size-selective inlet – Gravimetric method*, or
2. *Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM10 low volume sampler—Gravimetric method*.

(c) a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM2.5 low volume sampler—Gravimetric method.

(d) a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of *AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—high volume sampler gravimetric method*.

Wastewater use for dust suppression

B3 Wastewater from mineral processing activities may be used for dust suppression provided the following criteria are met:

(a) the amount applied does not exceed the amount required to effectively suppress dust; and

(b) the application:

i. does not cause on-site ponding or runoff;

ii. is directly applied to the area being dust suppressed;

iii. does not harm vegetation surrounding the area being dust suppressed;

iv. does not cause visible salting; and

v. must not be carried out in an area outside the catchment of the authorised disturbance area/s.

B4 If there is any indication that any of the circumstances in condition B3(b)(i) to B3(b)(v) is occurring the use must cease immediately and the affected area must be remediated without delay.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

General

C1 Contaminants that will or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the activities.

Water monitoring

C2 Water monitoring and sampling must address and comply with the latest version of the Queensland Government's *'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009'* unless otherwise approved by the administering authority.

Groundwater monitoring program

C3 A Groundwater Monitoring Program must be developed by an appropriately qualified person and implemented.

C4 The Groundwater Monitoring Program must:

(a) provide a hydrogeological conceptual groundwater model; and
(b) document all potential sources of contamination to groundwater from the activity;
(c) identify all environmental values that may be impacted;
(d) details groundwater levels in all identified hydrogeological units present across and adjacent to the site to confirm existing groundwater flow paths;
(e) document potential adverse impacts to groundwater values due to the activity and propose minimisation/mitigation strategies to limit impact;
(f) document sampling and monitoring methodology;
(g) ensure that adequate groundwater monitoring and data analysis is undertaken to:
    i. detect variation in groundwater levels due to the activity.
    ii. detect variation in groundwater quality due to the activity.
    iii. identify and characterise groundwater trends and influences.
    iv. determine any interaction or impact from groundwater on surface water.
(h) provide an appropriate quality assurance and quality control program; and
(i) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.

C5 The Groundwater Monitoring Program must be reviewed on an annual basis by an appropriately qualified person to determine if it continues to meet the requirements stated in condition C4.

Monitoring and reporting

C6 Groundwater level and quality must be monitored at the locations and frequencies defined in Schedule C – Table C1 (Groundwater monitoring locations and frequency) and Schedule J – Figure 3 (Groundwater Monitoring Locations).

Table C1 - Groundwater monitoring locations and frequency

Monitoring point	Location (GDA94 –Zone 54)		Surface RL (m) [1]	Monitoring frequency
	Easting	Northing		
Observation bore				
MB08	323389 [2]	7594906 [2]	TBA [2]	Monthly
MB09	323444 [2]	7594996 [2]	TBA [2]	
MM10	322679 [2]	7595535 [2]	TBA [2]	
MB11	322344 [2]	7595250 [2]	TBA [2]	
MB12	322379 [2]	7594729 [2]	TBA [2]	
MB13	323077 [2]	7595699 [2]	TBA [2]	
MB14	322955[2]	7595875[2]	TBA [2]	
MB15	323447	7595412	TBA [2]	
MB16	323270	7595942	TBA [2]	

[1] RL must be measured to the nearest 5cm from the top of the bore casing.
[2] All details are to be advised (TBA) by the holder prior to operation of Interim TSF Cell, TSF and/or ROBSF containment structures.

C7 If standing water is identified within an observation bore specified in Schedule C - Table C1 (Groundwater monitoring locations and frequency):

(a) Record the standing water level and undertake sampling for the quality characteristics identified in Schedule C - Table C5 (Receiving water trigger levels and contaminant limits).

(b) Notify the administering authority of the occurrence of the standing water and the associated groundwater level within 24 hours.

(c) Investigate to determine the source of the standing water within 20 business days.

i. If mining activities are identified as a potential cause or contributor, take immediate action to ensure compliance with condition C1 of this environmental authority.

ii. Within 10 business days of completing the investigation, provide a written report to the administering authority detailing all pertinent aspects of the investigation (such as objectives, applied methodology, sampling results, investigation outcomes, assumptions relied upon and justification for any assertions made) and any actions undertaken and/or proposed to prevent or minimise environmental harm.

Bore construction and maintenance

C8 The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken by an appropriately qualified person in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

C9 A bore report must be kept for each monitoring bore which includes:

(a) a unique identification reference number and geographic coordinate location; and

(b) construction information including but not limited to the depth of bore, depth and length of casing, depth and length of screening and bore sealing details; and

(c) stratigraphy and target hydrogeological unit of the bore; and

(d) depth at which groundwater was intercepted and the final standing water level after bore development.

Receiving environment monitoring

C10 The quality of the receiving waters must be monitored:

(a) at the locations specified in Schedule C - Table C4 (Receiving water monitoring points and monitoring frequency) and represented in Schedule J - Figure 4 (Receiving water monitoring locations); and

(b) at the frequency specified in Schedule C - Table C4 (Receiving water monitoring points and monitoring frequency); and

(c) for each quality characteristic stated in Schedule C - Table C5 (Receiving water trigger levels and contaminant limits).

Table C4 - Receiving water monitoring points and monitoring frequency

Monitoring point	Site description	GDA94 MGA zone 54		Monitoring Frequency
		Easting	Northing	
Reference				One sample must be taken within 2 hours of a flow event commencing.
ARD5	On a tributary of Split Creek.	322481	7601085	
SCUS	Sulieman Creek (upstream)	323672	7594374	
Compliance				For a flow event with a duration of greater than twenty-four (24) hours, samples must be taken daily for one week and once a
SCT1	On a tributary of Sulieman Creek, approximately 700 m downstream from the project site.	323512	7594877	

SCT2	On a tributary of Sulieman Creek, approximately 300 m downstream from the project site.	323856	7595092	week thereafter until the flow event ceases.
SCDS2	On a tributary of Sulieman Creek, downstream of drainage features associated with SCT1, SCT2 and SCT3. Approximately 450 m downstream of SCDS1.	324869	7594592	
Observation				
SCT3	On a tributary of Sulieman Creek, downstream of project site and approximately 620 m downstream from cattle dam.	324637	7595668	
SCDS1	On a tributary of Sulieman Creek, downstream of confluence of drainage features associated with SCT1 and SCT2.	324497	7594684	

1. Reference sites must be:

a. be from the same biogeographic and climatic region; and
b. have similar geography, soil types and topography; and
c. contain a range of habitats similar to those at the test sites; and
d. a similar flow regime; and
e. not be so close to the test sites that any disturbance at the test site also results in a change at the reference site.

Table C5 - Receiving water trigger levels and contaminant limits

Quality Characteristic [1]	Units	Trigger Level [1, 10]	Contaminant Limit [1,2,3]
pH	pH units	6.0 [4] (minimum) 7.5 [4] (maximum)	6.0 [5] (minimum) 9.0 [5] (maximum)
Electrical conductivity (EC)	µS/cm	250 [6] or 80th percentile of reference point concentration, whichever is higher	410 [7] or 95th percentile of reference point concentration, whichever is lower
Total suspended solids (TSS)	mg/L	For interpretation purposes only.	
Total Phosphorus	mg/L	0.01 [4] or 80th percentile of reference point concentration, whichever is higher.	95th percentile of reference site concentration.
Total Nitrogen	ug/L	150 [4] or 80th percentile of reference concentration, whichever is higher.	95th percentile of reference, whichever is lower.
Filterable Reactive Phosphorus	mg/L	0.005 [4] or 80th percentile of reference concentration, whichever is higher.	95th percentile of reference site concentration.
Major cations	mg/L	For interpretation purposes only.	
Major anions	mg/L	For interpretation purposes only.	

Quality Characteristic [1]	Units	Trigger Level [1, 10]	Contaminant Limit [1,2,3]
Hardness	mg/L	For interpretation purposes only.	
Aluminium (pH <6.5)	mg/L	0.0008 [8] or 80th percentile of reference concentration, whichever is higher.	5 [9] or 95th percentile of reference, whichever is lower.
Aluminium (pH >6.5)	mg/L	0.055 [8] or 80th percentile of reference concentration, whichever is higher.	
Arsenic	mg/L	0.013 [8] or 80th percentile of reference concentration, whichever is higher.	0.5 [9] or 95th percentile of reference, whichever is lower
Cadmium	mg/L	0.0002 [8] or 80th percentile of reference concentration, whichever is higher.	0.01 [9] or 95th percentile of reference, whichever is lower
Chromium	mg/L	0.001 [8] or 80th percentile of reference concentration, whichever is higher.	1 [9] or 95th percentile of reference, whichever is lower
Cobalt	mg/L	0.0014 [8] or 80th percentile of reference concentration, whichever is higher.	1 [9] or 95th percentile of reference, whichever is lower
Copper	mg/L	0.0014 [8] or 80th percentile of reference concentration, whichever is higher.	0.5 [9] or 95th percentile of reference, whichever is lower.
Lead	mg/L	0.0034 [8] or 80th percentile of reference concentration, whichever is higher.	0.1 [9] or 95th percentile of reference, whichever is lower.
Mercury	mg/L	0.00006 [8] or 80th percentile of reference concentration, whichever is higher.	0.002 [9] or 95th percentile of reference, whichever is lower.
Nickel	mg/L	0.011 [8] or 80th percentile of reference concentration, whichever is higher.	1 [9] or 95th percentile of reference, whichever is lower.
Zinc	mg/L	0.008 [8] or 80th percentile of reference concentration, whichever is higher.	20 [9] or 95th percentile of reference, whichever is lower.

[1] If sufficient monitoring data is available, site-specific trigger levels and contaminant limits for water quality (80th and 95th percentile of reference site concentration) must be calculated in accordance with QWQG (2009) and ANZECC (2000) methodology.

[2] Where the concentration of a quality characteristic at a compliance point does not exceed the associated trigger level for that quality characteristic, the contaminant limit does not apply.

[3] Where the concentration of a quality characteristic at a compliance point exceeds the associated contaminant limit, and the reference point concentration for that quality characteristic is equal to or higher than the concentration measured at the compliance point during the flow event, the concentration measured at the reference point applies as the contaminant limit for the duration of the event.

[4] ANZECC/ARMCANZ (2000) Table 3.3.4 - Values for physical and chemical stressors for tropical Australia for slightly disturbed ecosystems.

[5] ANZECC/ARMCANZ (2000) Section 4.2.10.1 - Values for general water uses.

[6] ANZECC/ARMCANZ (2000) Table 3.3.5 - Default trigger values for physical and chemical stressors for tropical Australia for slightly disturbed upland river ecosystems.

[7] Queensland Water Quality Guidelines (2009) Table G.4 - EC percentiles for salinity zones for all riverine data as well as for rateable sites only.

[8] ANZECC & ARMCANZ (2000) Default guideline values (DGVs) for toxicants in freshwater.

[9] ANZECC & ARMCANZ (2000) Guideline values for heavy metals and metalloids in livestock drinking water.

[10] All metals and metalloids must be measured as dissolved (filtered) and total (unfiltered). Trigger level for metal/metalloids applies if dissolved result exceeds trigger level. Contaminant limit applies for metal/metalloids if total result exceeds contaminant limit.

Note: The method of sampling waters must comply with the administering authority's Water Quality Sampling Manual.

C11 If a quality characteristic in receiving water at a compliance point specified in Schedule C - Table C4 (Receiving water monitoring points and monitoring frequency) exceeds any of the trigger levels specified in Schedule C - Table C5 (Receiving water trigger levels and contaminant limits), or, in respect to pH the measure is outside of the specified pH range, the environmental authority holder must compare the quality characteristic concentration at the compliance point with the quality characteristic concentration at the reference point, and:

(a) where the compliance point concentration is the same or a lower value than the reference point concentration for the contaminant exceeded then no action is to be taken, or

(b) where the compliance point concentration exceeds the reference point concentration for the contaminant, or, in respect to pH, the measure is outside of the specified pH range:

i. notify the administering authority in writing within twenty-four hours of becoming aware; and

ii. undertake further sampling of potentially impacted areas for all quality characteristics specified in Table C5 (Receiving water trigger levels and contaminant limits); and

iii. complete an investigation into the potential for environmental harm to occur in accordance with ANZECC (2000) methodology, and submit a written report to the administering authority within 20 business days outlining:

1. details of the investigation carried out including any assumptions and limitations of the investigation;
2. findings of the investigation including an explanation of the cause identified;
3. recommendations of the investigation; and
4. actions taken to comply with the conditions of the environmental authority and to prevent environmental harm.

Note: Where an investigation is being conducted in accordance with section (b) of this condition, additional trigger event notification in respect to the quality characteristic is not required during the investigation period.

C12 Activities conducted under this environmental authority must not result in exceedance of contaminant limits stated in Schedule C - Table C5 (Receiving water trigger levels and contaminant limits).

Dam Structure water quality monitoring

C13 The quality of water contained within dam structures identified in Schedule C - Table C6 (Dam structure water quality monitoring) must be monitored:

(a) at a location within the dam structure;

(b) at the monitoring frequency in Schedule C - Table C6 (Dam structure water quality monitoring); and

(c) for the quality characteristics specified in Schedule C - Table C5 (Receiving water trigger levels and contaminant limits).

Table C6 – Dam structure water quality monitoring

Water Storage	Water Storage Description	Monitoring frequency
TSF #1 (Stage 1 Operations)	Tailings Storage Facility	Quarterly
Interim TSF #2 Cell (Stage 2.1 Operations)	Tailings and brine storage facility (comingled disposal)	
Main TSF (Stage 2.1 Operations)	Tailings	
Reverse Osmosis Brine Storage Facility (ROBSF/TSF#3)	Brine storage facility and tailings (comingled disposal)	
TSF#4	Tailings and brine storage facility (comingled disposal)	

C14 If any results from the water quality monitoring undertaken in accordance with condition C13 requirements exceed a water quality trigger value specified within Australian and New Zealand Water Quality Guidelines (ANZECC & ARMCANZ (2000)) for livestock drinking water quality, then all necessary actions must be taken to prevent access to the waters by wildlife and livestock.

Water Management Plan

C15 A Water Management Plan must be developed by an appropriately qualified person and implemented.

C16 The Water Management Plan must:

(a) provide for effective water management of actual and potential environmental impacts resulting from the mining activity; and

(b) include:

i) a study of the source of contaminants;

ii) a water balance model for the site;

iii) a water management system for the site;

iv) contingency procedures for incidents and emergencies; and

v) a program for monitoring and review of the effectiveness of the water management plan.

C17 The Water Management Plan must be reviewed by 1 November each year. The review must be documented and:

(a) include a statement that the Water Management Plan has been reviewed by an appropriately qualified person;

(b) assess the plan against the requirements under condition C16;

(c) include recommended actions to ensure actual and potential environmental impacts are

effectively managed;

(d) provide details and timelines of the actions to be taken; and

(e) identify any amendments made to the Water Management Plan.

C18 A copy of the Water Management Plan must be kept up to date following each annual review.

Sediment and Erosion Controls

C19 An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented to prevent or minimise erosion and the release of sediment to receiving waters and contamination of stormwater.

C20 The Erosion and Sediment Control Plan must demonstrate how erosion and sediment control measures detailed in the plan adequately minimise the release of sediment to receiving waters and must include at least the following:

(a) an assessment of the size and characteristics of all catchment areas;

(b) an assessment of relevant properties of soils and waste materials;

(c) identification of receiving waters environmental values, water quality objectives and management intent;

(d) specification of minimum design criteria for erosion and sediment control structures to achieve the management intent of receiving waters;

(e) locations and descriptions of all erosion and sediment control measures; and

(f) an audit schedule to ensure erosion and sediment control measures are maintained and effective.

C21 The Erosion and Sediment Control Plan must be reviewed by an appropriately qualified person by 1 November each year. The review must be documented and must:

(a) include a statement that the Erosion and Sediment Control Plan has been reviewed by an appropriately qualified person; and

(b) assess the plan against the requirements of condition C20; and

(c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; and

(d) provide details and timelines of the actions to be taken; and

(e) identify any amendments made to the Erosion and Sediment Control Plan.

C22 A copy of the Erosion and Sediment Control Plan must be kept up to date following each annual review.

Sediment quality

C23 Sediment quality of receiving waters and reference waters must be monitored annually (after the wet season) at the monitoring locations defined in Schedule C - Table C4 (Receiving water monitoring points and monitoring frequency) and identified on Schedule J - Figure 4 (Receiving water monitoring locations) and for the parameters defined in Schedule C - Table C7 (Sediment quality trigger levels).

Table C7 - Sediment quality trigger levels

Quality characteristic [1]	**Units**	Trigger level
Arsenic	mg/kg	2 [2] or reference concentration, whichever is higher.
Cadmium	mg/kg	1.5 [2] or reference concentration, whichever is higher.
Chromium	mg/kg	80 [2] or reference concentration, whichever is higher.
Copper	mg/kg	65 [2] or reference concentration, whichever is higher.
Lead	mg/kg	50 [2] or reference concentration, whichever is higher.
Mercury	mg/kg	0.15 [2], or reference concentration, whichever is higher.
Nickel	mg/kg	21 [2] or reference concentration, whichever is higher.
Zinc	mg/kg	200 [2] or reference concentration, whichever is higher.
Particle size distribution		For interpretation purposes
Nitrate/Nitrite	mg/kg	Site specific values are to be derived from reference site location monitoring and advised by the holder once a sufficient quantity of monitoring results is available.
Water soluble phosphorus (WSP)	mg/kg	
Total phosphorus	mg/kg	

[1] All samples must be sieved to remove the >2 mm sediment fraction prior to analysis.

[2] ANZECC & ARMCANZ (2000) default guideline values (DGVs) for toxicants in sediment.

C24 All sediment quality sampling must be undertaken in accordance with the most recent version of Australian Standard AS 5667.12 Guidance on Sampling of Bottom Sediment.

C25 If the quality characteristics of sediments at the downstream compliance monitoring points defined in Schedule C - Table C4 (Receiving water monitoring points and monitoring frequency) exceed any of the trigger levels specified in Schedule C - Table C7 (Sediment quality trigger levels), the holder of this environmental authority must compare results of the downstream site to the data from reference monitoring sites and:

(a) where the downstream result is the same or a lower value than the reference site value for the quality characteristic during the same sampling event then no action is to be taken;

(b) where the downstream results exceed the reference site, undertake an investigation as to whether the exceedance is attributable to the mining activity;

(c) if the exceedance is not attributable to the mining activity then no further action is required;

(d) if the exceedance is attributable to the mining activity, complete the investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within 20 days, outlining:

i) details of the investigations carried out; and

ii) actions taken or to be taken to minimise environmental harm including measures to remediate the receiving environment to the extent of the contamination.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with C25(d) of this condition, no further reporting is required for subsequent trigger events of an equal-to or lesser extent for that quality characteristic.

C26 The holder of this environmental authority must implement the measures proposed under condition C25 to remediate the receiving environment to the extent of the contamination.

Receiving environment monitoring program (REMP)

C27 The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions). For the purposes of the REMP, the receiving environment are the tributaries of Sulieman Creek, located downstream of the project area. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that may be directly affected by any potential release of contaminants.

C28 A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the administrating authority upon request.

The REMP must at a minimum:

(a) address and comply with the latest version of the administering authority's guideline *Receiving environment monitoring program guideline (ESR/2016/2399);*

(b) identify, describe and monitor any adverse impacts to surface water environmental values, quality, and flows;

(c) assess the long-term condition or state of surface waters, sediment, and aquatic ecosystem health;

(d) include the locations listed in Schedule C - Table C4 (Receiving water monitoring points and monitoring frequency);

(e) identify and describe all environmental values of the receiving environment;

(f) assess the receiving environment monitoring results against water and sediment quality

objectives in Schedule C - Table C5 (Receiving water trigger levels and contaminant limits) and Schedule C - Table C7 (Sediment quality trigger levels);

(g) include an assessment of the potential impacts of the activity and propose appropriate mitigation measures;

(h) assess the status of and any change to aquatic ecosystem health including aquatic flora and fauna within and immediately surrounding the project area;

(i) assess the status of and any change to riparian vegetation health within and immediately surrounding the project area;

(j) apply procedures and/or guidelines from Australian and New Zealand Water Quality Guidelines and other relevant standards and guideline documents;

(k) describe sampling and analysis methods and quality assurance and control; and

(l) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

C29 A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administrating authority.

The REMP Annual Report must:

(a) be prepared by an appropriately qualified person;

(b) outline the findings of the REMP, including but not limited to:

i) an assessment of long-term upstream water quality;

ii) an assessment of the long-term condition or state of surface waters, sediment and aquatic ecosystem health;

iii) recommendations for further investigation or actions;

iv) recommendations for changes or improvements to the monitoring program;

v) potential changes to management of the authorised activity to minimise impacts;

vi) all monitoring results; and

vii) a description of all conclusions formed.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Dam and levee 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 each structure assessed and 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 Conditions D5 to D9 inclusive do not apply to existing structures.

D5 All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of *the Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933).

D6 Construction of a regulated structure is prohibited unless:

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

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

D7 Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan, in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933),* and must be recorded in the Register of Regulated Structures.

D8 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)*.

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

i. floodwaters from 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.

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

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

Notification of affected persons

D10 All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure

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

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

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

Operation of a Regulated Structure

D11 Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following:

(a) one paper copy and one electronic copy of the design plan and certification of the ‘design plan’ in accordance with condition D6;

(b) a set of ‘as constructed’ drawings and specifications;

(c) certification of the ‘as constructed drawings and specifications’ in accordance with condition D9;

(d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan;

(e) the requirements of this authority relating to the construction of the regulated structure have been met;

(f) the holder has entered the details required under this authority, into a Register of Regulated Structures;

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

D12 Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified ‘as constructed’ drawings.

Mandatory Reporting Level

D13 Conditions D14 to D17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for ‘failure to contain – overtopping’.

D14 The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that

during routine inspections of that dam, it is clearly observable.

D15 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.

D16 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.

D17 The holder of this environmental must record any changes to the MRL in the Register of Regulated Structures.

Design Storage Allowance

D18 The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.

D19 By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).

D20 The holder of this environmental authority must, as soon as practicable but within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.

D21 The holder of this environmental authority must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

Annual Inspection Report

D22 Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

D23 At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required.

D24 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)*.

D25 The holder of this environmental authority must:

(a) within twenty (20) business days of receipt of the annual inspection report, provide to the

administering authority:

i. the recommendation section of the annual inspection report; and,

ii. if applicable, any actions being taken in response to those recommendations; and

(b) If, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.

Transfer Arrangements

D26 The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.

Register of Regulated Dams

D27 A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.

D28 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.

D29 The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition D11 and D12 has been achieved.

D30 The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.

D31 All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this environmental authority, or their delegate, as being accurate and correct.

D32 The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

Hydraulic performance of regulated dams

D33 Regulated dams must meet the hydraulic performance criteria specified in Schedule D - Table D1 (Hydraulic performance criteria).

Table D1 – Hydraulic performance criteria

Name of structure	Consequence category	Hydraulic performance criteria		
		Spillway capacity	Design Storage Allowance (DSA)	Mandatory Reporting Level (MRL)
TSF (Stage 2.1 Operations)	Significant [1]	1:100 AEP to 1:1000 AEP	1:20 AEP	1:10 AEP 72 hr duration plus wave allowance

[1] Land & Marine Geological Services Pty Ltd (L&MGSPL) (2023) report 'Centrex Metals Limited: *Ardmore Phosphate Project – Stage 2: Tailings Storage Facility Design Report*' (Revision 2, 02/02/2023)

Interim TSF Cell (Stage 2.1 Operations/TSF#2)

D33 The Interim TSF Cell structure must be designed, constructed and operated to prevent the discharge of contaminants from the structure to land or waters.

D34 The interim TSF Cell structure must be fully HDPE lined.

D35 The Interim TSF Cell structure must be inspected each calendar year by a suitably qualified and experienced person.

D36 At each annual inspection, the suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include any recommended actions to ensure the integrity of the structure is maintained.

D37 The holder must within 20 business days of receipt of the annual inspection report, advise the administering authority of any recommended actions included in the report and when recommended actions will be undertaken.

RO Brine Storage facility (ROBSF/TSF#3)

D38 The ROBSF structure must be designed, constructed, and operated to prevent the discharge of contaminants from the structure to land or waters.

D39 The RO Brine Storage facility (ROBSF) must be fully HDPE lined.

D40 The ROBSF structure must be inspected each calendar year by a suitably qualified and experienced person.

D41 At each annual inspection, the suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include any recommended actions to ensure the integrity of the structure is maintained.

D42 The holder must within 20 business days of receipt of the annual inspection report, advise the administering authority of any recommended actions included in the report and when recommended actions will be undertaken.

TSF#4

D43 TSF#4 must be designed, constructed and operated to prevent the discharge of contaminants from the structure to land or waters.

D44 TSF#4 must be fully HDPE lined.

D45 TSF#4 must be inspected each calendar year by a suitably qualified and experienced person.

D46 At each annual inspection, the suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include any recommended actions to ensure the integrity of the structure is maintained.

D47 The holder must within 20 business days of receipt of the annual inspection report, advise the

administering authority of any recommended actions included in the report and when recommended actions will be undertaken.

END OF CONDITIONS FOR SCHEDULE D

Schedule E - Noise and Vibration

Noise Limits

E1 The holder of this environmental authority must ensure that noise generated by the mining activities does not cause the criteria in Schedule E - Table E1 (Noise limits) to be exceeded at a sensitive place or commercial place.

Table E1 – Noise limits

Sensitive place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to 7am**	**9am to 6pm**	**6pm to 10pm**	**10pm to 9am**
$L_{Aeq, adj, 15 mins}$	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
$L_{A1, adj, 15 mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial place						
Noise level dB(A) measured as:	**Monday to Saturday**			**Sundays and public holidays**		
	7am to 6pm	**6pm to 10pm**	**10pm to7am**	**7am to 6pm**	**6pm to 10pm**	**10pm to 7am**
$L_{Aeq, adj, 15 mins}$	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

Table E1 – Noise limits notes:

1. *CV = Critical Value*
2. *AV = Adjustment Value*
3. *To calculate noise limits in Table E1:*

   If bg ≤ (CV – AV):

   Noise limit = bg + AV

   If (CV – AV) < bg ≤ CV:

   Noise limit = CV

   If bg > CV:

   Noise limit = bg + 0
4. *In the event that measured bg (**$L_{A90, adj, 15 mins}$**) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level*
5. *bg = background noise level (**$L_{A90, adj, 15 mins}$**) measured over 3-5 days at the nearest sensitive receptor*
6. *If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.*

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Waste Management

General

F1 Unless otherwise authorised by the conditions of this environmental authority, all waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.

Burning waste

F2 Unless otherwise permitted by the conditions of this environmental authority or with prior written approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.

F3 The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.

Regulated Waste

F4 Regulated waste, must only be removed and transported from the site by a person who holds a current environmental authority to transport such wastes to a facility that is lawfully able to accept the waste under the *Environmental Protection Act 1994*.

Tyre Storage

F5 Tyres stored awaiting transport should be stockpiled in volumes less than 3m in height and 200 m^2 in area and at least 10m from any other tyre storage area.

F6 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.

Waste Disposal

F7 The only waste that can be disposed of on site is waste generated on site and is limited to:

(a) Waste rock

(b) Tailings

(c) Brine

(d) No more than 1,000 tonnes per year of general waste.

F8 General waste must only be disposed of into the waste disposal facility identified in Schedule A –Table A1 (Authorised disturbance areas) and in Schedule J Figure 2 (Project site - Layout overview).

F9 Records must be kept of the date, amount and type of general waste disposed of in the waste disposal facility.

F10 Litter and vermin control methods must be effectively implemented at the active waste disposal area.

F11 The active waste disposal area identified in Schedule A –Table A1 (Authorised disturbance areas) and Schedule J Figure 6 must be constructed, designed, engineered, and operated to minimise the

generation and prevent release of leachate.

Waste Management Plan

F12 The holder of this environmental authority must develop, document and implement a waste management program for all mining activities at the licenced place.

F13 The waste management program required under condition F12 must be regularly reviewed and updated at intervals of no greater than five (5) years. The program must include:

(a) a description of the mining activity that may generate waste;

(a) 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;

v) disposal of waste including leachate management; and

vi) monitoring and reporting matters concerning the waste;

(b) the hazard characteristics of the wastes generated including disposal procedures for regulated wastes;

(c) a program for reusing, recycling or disposing of all wastes;

(d) 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);

(e) how the waste will be stored, handled and transferred in a proper and effective manner;

(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) 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 Rock Disposal

F14 The holder of this environmental authority must develop and implement a waste rock and spoil disposal plan that includes (at least):

(a) a detailed design of the waste rock dumps;

(b) waste rock dump construction and maintenance requirements in accordance with current best practice methods.

(c) effective characterisation of the waste rock and spoil to predict under the proposed placement and disposal strategy the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic substances;

(d) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil and the salinity, acid and alkali producing potential and metal concentrations of waste rock including phosphorous;

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

(f) measures to ensure that clean water is diverted away from the waste rock dumps to avoid possible contamination;

(g) measures to ensure that all seepage and/or run-off (including subsurface) from the waste rock dumps is collected in the sediment basins;

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

(i) the indicators or other criteria on which the performance of the plan will be assessed.

F15 The waste rock and spoil disposal plan must be reviewed by 1 November each year. The review must be documented and:

(a) include a statement that the waste rock and spoil disposal plan has been reviewed by an appropriately qualified person;

(b) assess the plan against the requirements under condition F14;

(c) include recommended actions to ensure actual and potential environmental impacts are effectively managed;

(d) provide details and timelines of the actions to be taken; and

(e) identify any amendments made to the waste rock and spoil disposal plan.

F16 A copy of the waste rock and spoil disposal plan must be kept up to date following each annual review.

F17 The waste rock dumps must be designed, constructed and operated to prevent any water other than incidental rainfall from entering the waste rock dump.

F18 Only waste rock that is characterised as un–reactive and/or benign material may be used for the construction of infrastructure/structures.

Tailings disposal

F19 Tailings must be managed in accordance with written procedures that include provisions for:

(a) containment of tailings;

(b) the management of seepage and leachates both during operation and the foreseeable future;

(c) the control of fugitive emissions to air;

(d) a program of progressive sampling and characterisation to identify acid producing potential and

metal concentrations of tailings;

(e) maintaining records of the relative locations of any other waste stored within the tailings;

(f) a rehabilitation strategy; and

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

Brine disposal

F20 The holder of this environmental authority may dispose brine to containment structures comprising:

(a) Interim TSF Cell (Stage 2.1 Operations);

(b) Reverse Osmosis Brine Storage Facility (ROBSF);

(c) TSF (Stage 2.1 Operations); and

(d) TSF#4.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Land and Rehabilitation

General

G1 Unless authorised by this environmental authority contaminants that will or may cause environmental harm must not be directly or indirectly released to land.

G2 Any spillage of wastes, contaminants or other materials must be cleaned up promptly. Such spillages must be cleaned up using dry methods that minimise the impact of the release of wastes, contaminants, or materials to land.

Topsoil

G3 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.

G4 A topsoil and subsoil inventory which identifies the soil requirements for the mining activity and availability of suitable soil on the licensed place must be submitted to the administering authority upon request.

G5 Topsoil and subsoil stockpiles must be managed to ensure stability and minimise the release of contaminants.

Contaminated land

G6 Before applying for surrender of a mining lease, the holder of this environmental authority must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.

G7 Before applying for progressive rehabilitation certification for an area, the holder of this environmental authority must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.

G8 Minimise the potential for contamination of land by hazardous contaminants.

Purple-necked Rock-wallaby Monitoring Program

G9 The holder of this environmental authority must take all reasonable and practicable measures to avoid, minimise and mitigate impacts on the Purple-necked Rock-wallaby *(Petrogale purpureicollis).*

G10 By no later than 30 November 2023 a purple-necked rock-wallaby monitoring program must be developed and implemented by an appropriately qualified person to monitor and record the effects of the mining activity on the purple-necked rock wallaby population. A copy of the monitoring program must be provided to the administering authority prior to its implementation.

G11 The purple-necked rock-wallaby monitoring program required by condition G10 must be conducted

annually in each wet and dry season and prior to construction of the TSF and must include the following at a minimum:

(a) an estimation of the number of purple-necked rock-wallabies inhabiting the licensed place;

(b) continuation of data collection on suitable purple-necked rock-wallaby shelter sites and foraging areas;

(c) details of the person that undertook the monitoring program and the methods used;

(d) details of when (both date and time of day) and the climatic conditions at the time that the monitoring program was undertaken;

(e) an estimation of the number and type of pest species occurring within the licensed place that may impact on the population of the purple-necked rock-wallaby;

(f) consideration and comparison to previous similar monitoring programs;

(g) support for findings as follows:

i) site photos showing monitoring equipment placement and habitat structure;

ii) photos/records of the purple-necked rock-wallaby, scats or other trace material; and

iii) summary tables with measurements and diagnostic observations from captures (if relevant).

(h) procedures for notification to the administering authority and contingency plans in the event that any significant decline in the purple-necked rock-wallaby population is detected.

G12 A report detailing the results of the purple-necked rock-wallaby monitoring program carried out in accordance with conditions G10 and G11 must be provided to the administering authority upon request.

Prescribed environmental matters

G13 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 G - Table G1 (Significant residual impacts to prescribed environmental matters).

Table G1 - Significant residual impacts to prescribed environmental matters

Prescribed Environmental Matter	Broad vegetation group (BVG) [1] 1:1M scale mapping identifier and description	Regional ecosystem (RE) identifier	Stage 1	Stage 2	Stage 3	Maximum extent of impact	Location of Impact
Regional ecosystems	BVG1M 19b: Low open	RE 4.9.12	0.78ha	0.68ha	6.14ha	7.6ha	Schedule J - Figure 5:

(not within an urban area) within the defined distance from the defining banks of a relevant watercourse on the vegetation management watercourse map.	woodlands dominated by *Eucalyptus leucophylla* (Cloncurry box) or less extensively *Corymbia terminalis* (western bloodwood) low open woodlands and related associations, mainly lower slopes and valleys.	RE 1.12.3			0.33ha	0.33ha	(Relevant prescribed environmental matter)
	BVG1M 26a: Open forests to tall shrublands dominated by *Acacia cambagei* (gidgee) or *A. georginae* (Georgina gidgee) or *A. argyrodendron* (blackwood)	RE 4.9.10	0.09ha	0.08ha	0.68ha	0.85ha	
		RE 1.5.16			0.33ha	0.33ha	
	BVG1M 27a: Low open woodlands dominated by a variety of species including	RE 1.5.6			1.53ha	1.53ha	

	Acacia tephrina (boree), *Atalaya hemiglauca* (whitewood), *Archidendropsis basaltica* (eastern dead finish), *Ventilago viminalis* (supplejack) and *Lysiphyllum spp.*						

[1] Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2021). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 5.0. Queensland Herbarium, Department of Environment and Science.

G14 Records demonstrating that each impact to a prescribed environmental matter, not listed in Schedule G - Table G1 (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.

G15 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 G - Table G1 (Significant residual impacts to prescribed environmental matters).

G16 Prior to the commencement of each stage, a report completed by an appropriately qualified person must be provided to the administering authority. The report must contain an analysis of the following:

(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.

G17 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.

G18 The report required by condition G16 must be approved by the administering authority before the notice of election for the forthcoming stage, if applicable, is given to the administering authority.

G19 The notice of election for the staged environmental offset required by condition G18, 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.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Sewage Treatment

H1 Inflows to the sewage treatment plant must not exceeded 6,000 litres on any one day.

H2 The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in Schedule H - Table H1 (Contaminant release limits to land).

Table H1 - Contaminant release limits to land

Contaminant	Unit	Release Limit	Limit type	Frequency
5 day Biochemical oxygen demand (BOD)5	mg/L	1.07	Maximum	Monthly
Total suspended solids	mg/L	4.41	Maximum	Monthly
Nitrogen	mg/L	15	Maximum	Monthly
Phosphorus	mg/L	2	Maximum	Monthly
E-coli	Organisms/100ml	0.32	Maximum	Monthly
pH	pH units	6.5 – 8.0	Range	Monthly

H3 Treated sewage effluent may only be released to land in accordance with the conditions of this environmental authority and at the location identified in Schedule A –Table A1 (Authorised disturbance areas) and in Schedule J - Figure 2 (Project site - Layout overview).

H4 The application of treated effluent to land must:

(a) prevent drainage of contaminants to groundwater and subsurface flows to surface waters
(b) prevent damage to vegetation and the effluent disposal area must be maintained with appropriate vegetation in a viable state for transpiration and nutrient uptake
(c) not cause surface pondage and run-off of effluent
(d) not cause degradation of soil structure
(e) not cause soil sodicity and the build-up of nutrients and heavy metals in the soil and subsoil
(f) prevent spray drift or overspray carrying beyond effluent disposal areas.

H5 If areas irrigated with effluent are accessible to employees or the general public, the area must be fenced and prominent signage must be provided advising that effluent is present and not suitable for drinking or for human exposure.

H6 All sewage effluent released to land must be monitored at the frequency and for the parameters specified in Schedule H - Table H1 (Contaminant release limits to land).

H7 The daily volume of inflows to the sewage treatment plant and effluent released to land must be measured and records kept of the volumes of effluent released.

H8 When weather conditions or soil conditions preclude the release of treated sewage effluent to land, effluent must not be irrigated to land.

END OF CONDITIONS FOR SCHEDULE H

Schedule I – Definitions

Definitions

Key terms and/or phrases used in this document are defined in this section. Applicants should note that 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.

"activity" means the environmentally relevant activities to which the environmental authority relates.

"acid rock drainage" means any contaminated discharge 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.

"administering authority" is the agency or department that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

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

"AHD" means 'Australian Height Datum' which is the Australian national standard of geodetic datum for altitude measurements and is measured in meters (m). The level of 0.0 meters (m) AHD approximates the mean sea level (as previously measured for the period 1966-1968).

"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 inspection report" means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

(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 authority;

(e) for conformance with the 'as constructed' drawings;

(f) for the adequacy of the available storage in each regulated dam, 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 dam (or network of linked containment systems);

(g) for evidence of conformance with the current operation plan.

"annual exceedances 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 *the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)* published by the *Australian and New Zealand Environment and Conservation Council* and *the Agriculture and Resource Management Council of Australia and New Zealand* or any equivalent update/replacement guidelines.

"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" or **"assessment"** by a suitably qualified and experienced person in relation to a hazard assessment of a dam, 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.

"certification", 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 an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy "Certification by RPEQs (ID: 1.4 (2A)).

"certifying", **"certify"** or **"certified"** have a corresponding meaning as 'certification'.

"chief executive" means the chief executive of the Department of Environment and Heritage Protection or its successor.

"commercial place" means a workplace 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.

"competent person" means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

"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).

"construction" or "constructed" in relation to a regulated structure includes building a new regulated structure and lifting or otherwise modifying an existing regulated structure, but does not include investigations and testing necessary for the purpose of preparing a design plan.

"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.

"design plan" is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

"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, 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 dam, means the certifier of the design plan for the regulated dam.

'disturbance' of land includes:

(a) compacting, removing, covering, exposing or stockpiling of earth;

(b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;

(c) carrying out mining within a watercourse, waterway, wetland or lake;

(d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;

(e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased; or

(f) releasing of contaminants into the soil, or underlying geological strata.

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

(a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

(b) areas previously disturbed which have achieved the rehabilitation outcomes;

(c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);

(d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner.

(e) disturbance that pre-existed the grant of the tenure.

'EC' means electrical conductivity.

"emergency action plan" means documentation forming part of the operational plan held by the holder 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 affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

"environmental authority" means a licence or approval issued pursuant to the *Environmental Protection Act. 1994.*

"environmental authority holder" means the holder of this environmental authority.

"environmental offset" has the meaning in section 7 of the *Environmental Offsets Act 2014*.

"existing structure" means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

"flow event" means a surface water flow in a drainage feature or watercourse that occurs as a result of rainfall.

"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.

"general waste" means as defined in Schedule 19 of the *Environmental Protection Regulation 2019*.

"geo-technically stable" means not producing seepage, leachate or contamination that is likely or has the potential to cause environmental harm.

"HDPE" means high density polyethylene.

"holder", for a mining tenement, means a holder of the tenement under the *Mineral Resources Act 1989*, and the holder of the associated environmental authority under the *Environmental Protection Act 1994.*

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

"in situ" in relation to water quality monitoring, means sampling a population variable (e.g., the concentration of an aquifer groundwater quality parameter) as close as possible to its origin. Unless otherwise specified under a condition of this environmental authority, in situ water quality parameters must include pH, electrical conductivity, dissolved oxygen (% saturation) and total suspended solids.

"infrastructure" means water storage dams, levees, roads and tracks, buildings and other structures built for the purpose of the mining activity.

"$L_{A\ 10,\ adj,\ 10\ mins}$" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

"$L_{A\ 1,\ adj,\ 10\ mins}$" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response

"$L_{A,\ max\ adj,\ T}$" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

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

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

"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 material 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 activities carried out at the mining tenements of this environmental authority.

"major anions" in regards to water quality monitoring, includes at minimum the carbonate ion (CO_3^{2-}), bicarbonate ion (HCO_3^-) and chloride ion (Cl^-).

"major cations" in regards to water quality monitoring, includes at minimum the sodium ion (Na+), potassium ion (K+), magnesium ion (Mg^2+) and calcium ion (Ca^2+).

"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.

"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) magnetite;

(c) metal or metalloid compounds, including but not limited to compounds containing gold, copper, silver, lead, nickel, and zinc.

(d) foundry sand;

(e) 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 therefrom;

(f) limestone if mined for use for its chemical properties;

(g) marble;

(h) mineral oil or gas extracted or produced from shale or coal by in situ processes;

(i) peat;

(j) salt including brine;

(k) shale from which mineral oil may be extracted or produced;

(l) silica, including silica sand, if mined for use for its chemical properties;

(m) rock mined in block or slab form for building or monumental purposes;

but does not include—

(n) living matter;

(o) petroleum within the meaning of the *Petroleum Act 1923*;

(p) 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;

(q) water.

"minimise" is to reduce to the smallest possible amount or degree.

"Modification" or **"modifying"** (see definition of 'construction')

"monitoring results" includes analysis results (laboratory and in situ) and monitoring reports.

"NATA" means National Association of Testing Authorities, Australia.

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

"non polluting" means having no adverse impacts upon the receiving environment.

"notice of election" has the meaning in section 18(2) *Environmental Offsets Act 2014*.

"noxious" means harmful or injuries to health or physical well-being, other than trivial harm.

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

"operational plan" includes:

(a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);

(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.

"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*.

"progressive rehabilitation" means rehabilitation undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

"QWQG (2009)" means *the Queensland Water Quality Guidelines 2009* published by the *Queensland Government* or any equivalent update/replacement guidelines.

"receiving environment" in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

(a) a watercourse;

(b) groundwater; and

(c) an area of land that is not specified in Schedule A - Table A1 (Authorised disturbance) of this environmental authority.

The term does not include land that is specified in Schedule A - Table A1 (Authorised disturbance) of this environmental authority.

"records" include any written procedures, plans, monitoring results, and monitoring programs required under a condition of this environmental authority.

"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/2016/193315);
(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, 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 (megalitres);
   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 (megalitres) 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 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/2016/193315) 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.

"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" means the discharge of water (whether intentional or due to failure to prevent) to the receiving environment from any area, structure or feature located on a mining lease listed on this environmental authority.

"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 activities.

"sensitive place" means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical centre or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or

- a public park or gardens; or

Note: The definition of 'sensitive place' and 'commercial place' is based on Schedule 1 of EPP Noise. That is, a sensitive place is inside or outside on a dwelling, library and educational institution, childcare or kindergarten, school or playground, hospital, surgery or other medical institution, commercial & retail activity, protected area or an area identified under a conservation plan under *Nature Conservation Act 1992* as a critical habitat or an area of major interest, marine park under *Marine Parks Act 2004*, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.

A mining camp (i.e., accommodation and ancillary facilities for mine employees or contractors or both, associated with the mine the subject of the environmental authority) is not a sensitive place for that mine or mining project, whether or not the mining camp is located within a mining tenement that is part of the mining project the subject of the environmental authority. For example, the mining camp might be located on neighbouring land owned or leased by the same company as one of the holders of the environmental authority for the mining project, or a related company. Accommodation for mine employees or contractors is a sensitive place if the land is held by a mining company or related company, and if occupation is restricted to the employees, contractors and their families for the particular mine or mines which are held by the same company or a related company. For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

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

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

"stable" means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and 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 dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design.
- For regulated 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.

"system design plan" means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than $5000.

"µS/cm" means micro siemens per centimetre.

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

"water" is defined under Schedule 4 of the *Water Act 2000.*

"watercourse" has the meaning in Schedule 4 of the Environmental Protection Act 1994 and means:

1) a river, creek or stream in which water flows permanently or intermittently—
   (a) in a natural channel, whether artificially improved or not; or
   (b) in an artificial channel that has changed the course of the watercourse.
2) Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

"water quality" means the chemical, physical and biological condition of water.

"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 CONDITIONS FOR SCHEDULE I

Schedule J - Maps

Figure 1: Mining lease overview

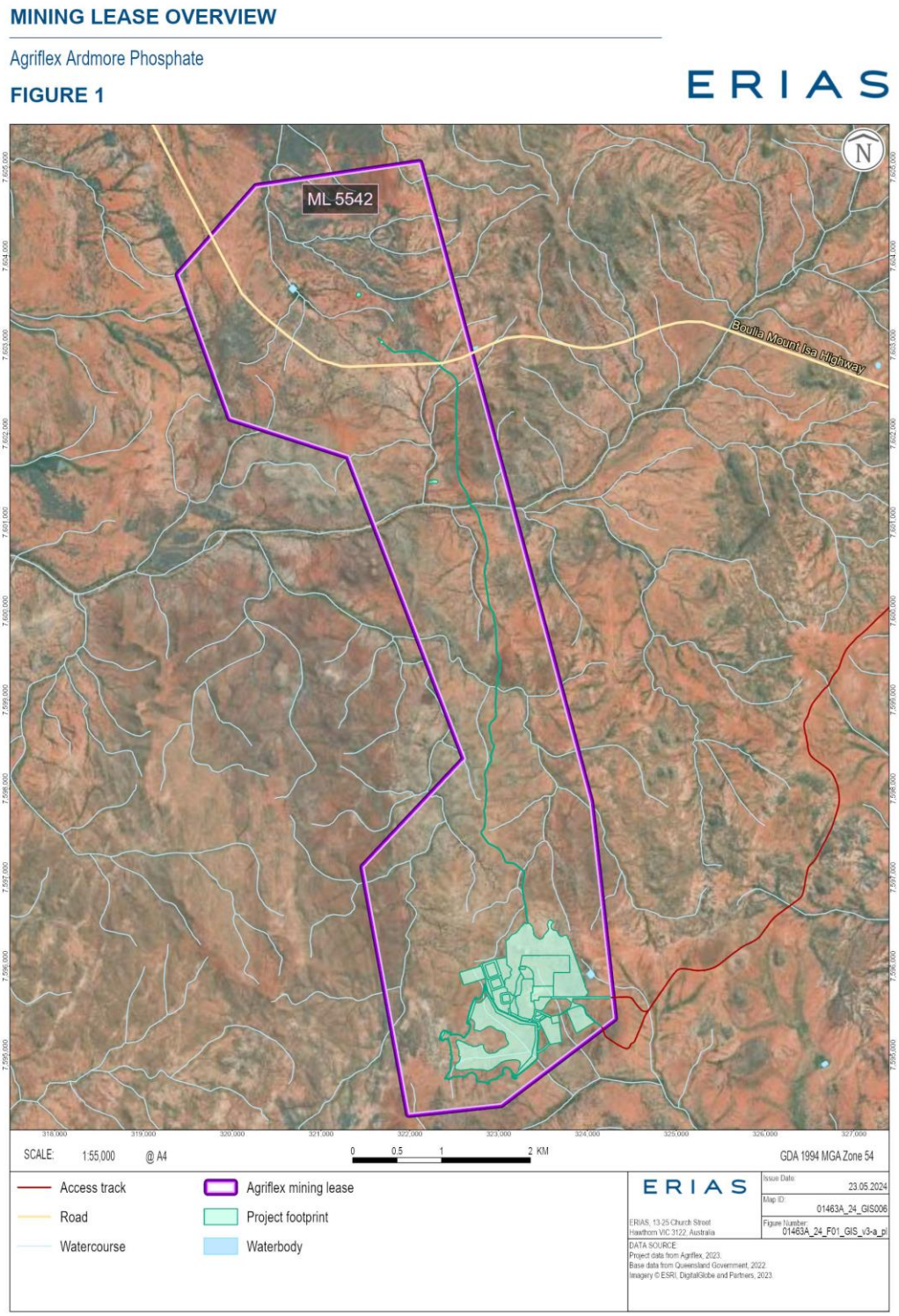


Figure 2: Project site - Layout overview

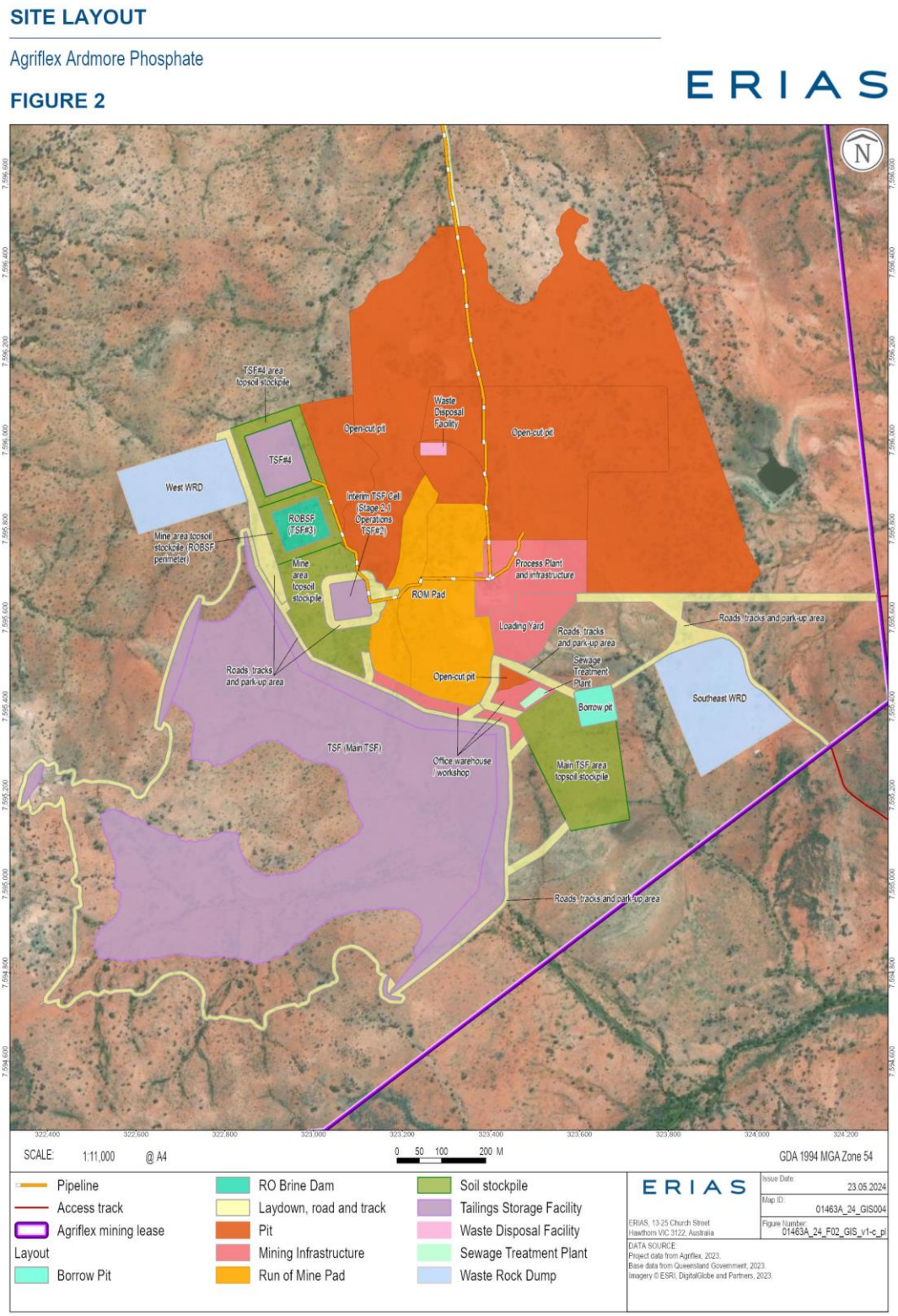
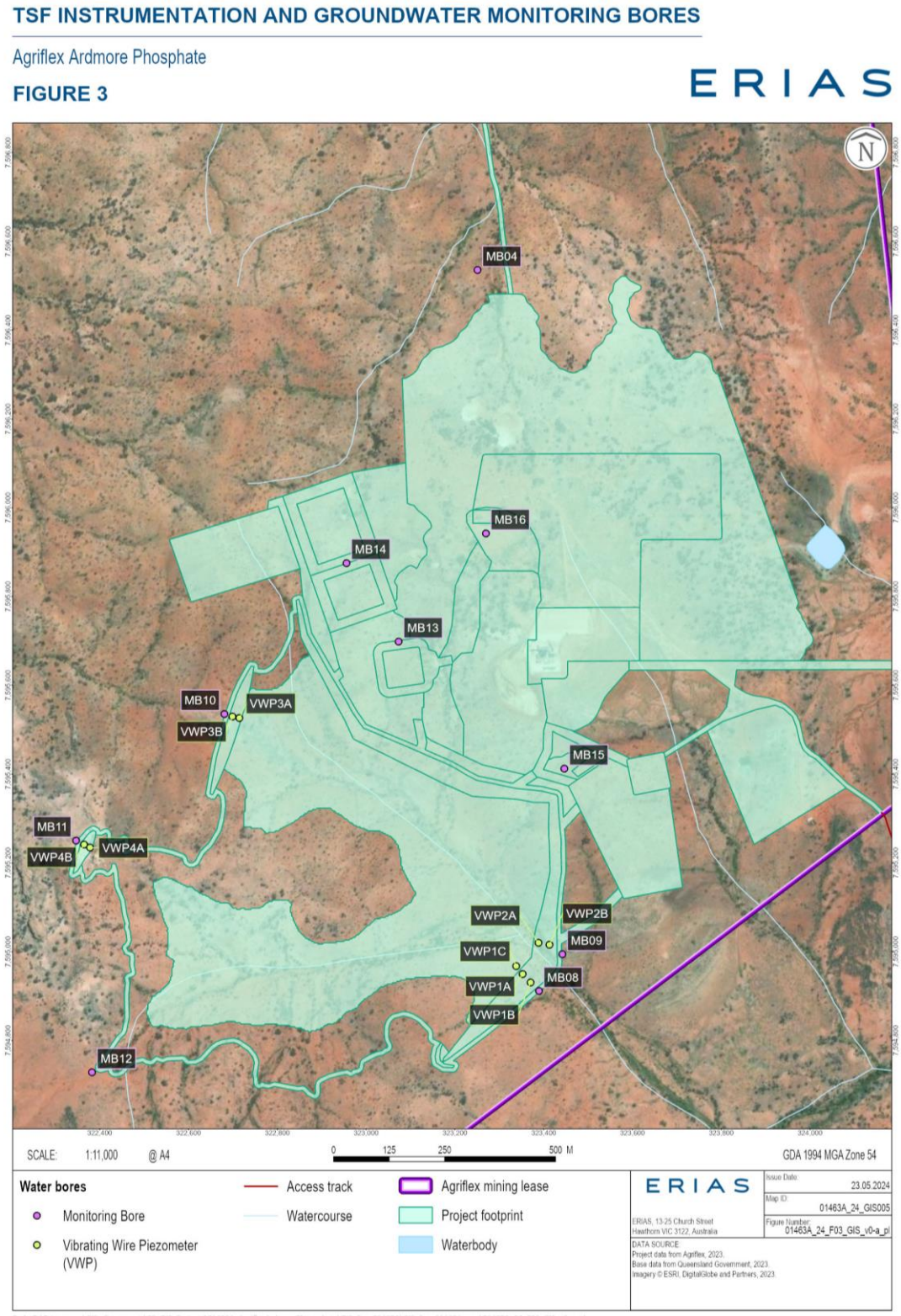


Figure 3: Groundwater monitoring locations



Queensland Government

Figure 4: Receiving water monitoring locations

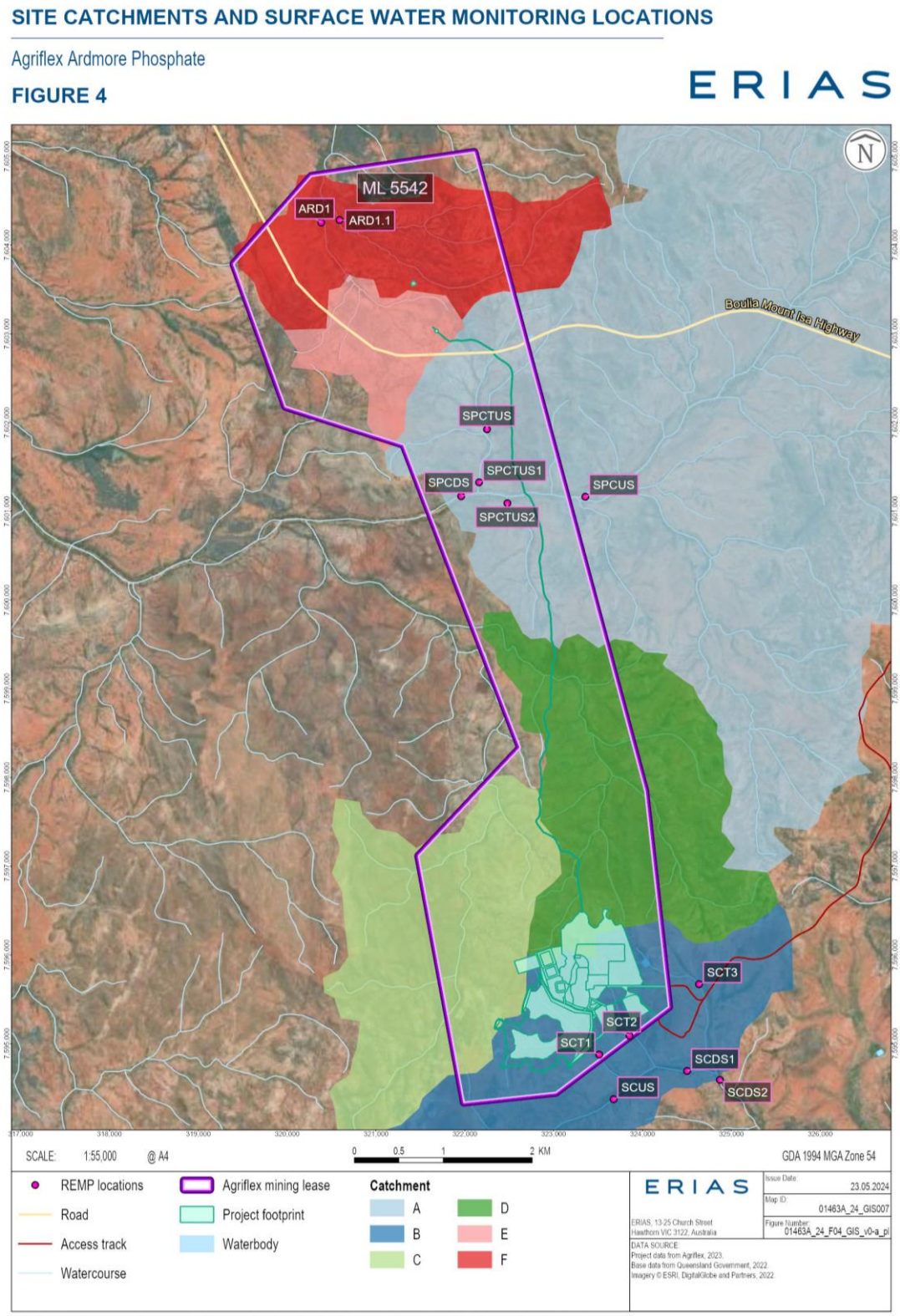


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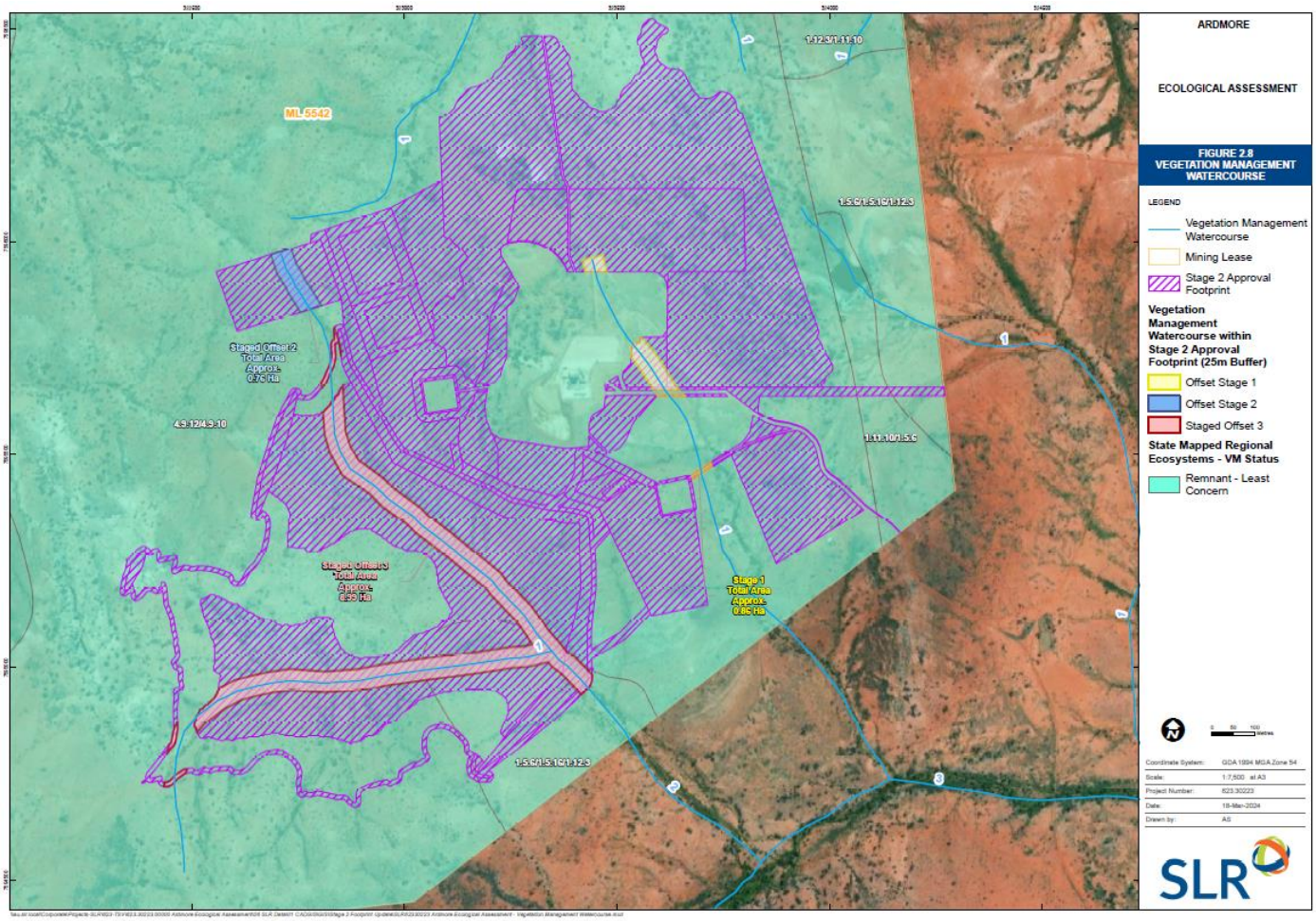
Figure 5: Relevant prescribed environmental matter



END OF SCHEDULE J

END OF PERMIT

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