

Permit

Environmental Protection Act 1994

Environmental authority EPML00380113

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

Environmental authority number: EPML00380113

Environmental authority takes effect on 21 August 2023

Environmental authority holder(s)

Name(s)	Registered address
Peabody Coppabella Pty Ltd	Level 5, 100 Melbourne Street SOUTH BRISBANE QLD 4101
CITIC Australia Coppabella Pty Ltd	Level 7, CITIC House 99 King Street MELBOURNE VIC 3000
KC Resources Pty Ltd	Suite 3B Level 33, 52 Martin Place SYDNEY NSW 2000
Winchester Coal Operations Pty Ltd	Commonwealth Bank Building Level 25, 240 Queen Street BRISBANE CITY QLD 4000
NS Coal Pty Ltd	Level 2, Navison House 10 Market Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 3 – 13: Mining black coal	ML70354 and ML70355

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

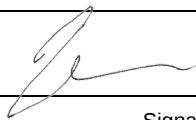
Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- 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- one 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.



Signature

21 August 2023

Date

Juliana McCosker
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date Issued: 13 July 2023

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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)

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Conditions of environmental authority

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

- Schedule A: General;
- Schedule B: Air;
- Schedule C: Land;
- Schedule D: Noise;
- Schedule E: Social;
- Schedule F: Waste;
- Schedule G: Water;
- Schedule J: Regulated Structures
- Definitions; and
- Appendices.

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

Schedule A: General	
Condition number	Condition
A1	Monitoring All monitoring records, plans, programs, and reports required by this environmental authority must be kept until the surrender of this environmental authority.
A2	Monitoring, or determinations, or both, required under any condition of this environmental authority must be conducted by an appropriately qualified person.
A3	Maintenance of measures, plant and equipment The environmental authority holder must ensure: (a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; (b) that such measures, plant and equipment are maintained in a proper condition; and (c) that such measures, plant and equipment are operated in a proper manner.
A4	Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5 of 'AS 1940-2004 <i>Storage and Handling of Flammable and Combustible Liquids of 2004</i>'.
A5	Definitions Words and phrases used throughout this environmental authority are defined under 'Definitions' of this authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the <i>Environmental Protection Act 1994</i>, its regulations and environmental protection policies must be used.
A6	Upon request from the administering authority, copies of monitoring results, complaints, records, registers, management plans and reports required by the conditions of this environmental authority must be made available and provided to the administering authority within— (a) ten (10) business days; or (b) an alternative timeframe agreed between the administering authority and the environmental authority holder.
A7	Authorised disturbance In carrying out mining activities authorised by the environmental authority, the environmental authority holder must comply with the disturbance areas in Attachment 1 - Authorised Disturbance Areas

Schedule B: Air	
Condition number	Condition
B1	Subject to conditions B2 and B3 the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
B2	When requested by the administering authority , dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
B3	If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of B1: (a) Dust deposition of one hundred and twenty (120) milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and (b) A concentration of particulate matter with an aerodynamic diameter of less than ten (10) micrometre (µm) (PM10) suspended in the atmosphere of fifty (50) micrograms per cubic metre over a twenty-four (24) hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with: (i) Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990; or (ii) Any alternative method of monitoring PM10 which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority. <i>Note: The holder of this environmental authority must propose which monitoring method is appropriate in accordance with condition B3. Specifically, methods (a), (b) or both.</i>
B4	If monitoring indicates exceedance of the relevant limits in condition B3, then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; or (b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B5	All haul roads must be regularly watered to minimise dust.

Schedule C: Land	
Condition number	Condition
C1	All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a self-sustaining vegetation cover in accordance with Table C1 (Final land use and rehabilitation approval schedule) , Attachment 2 – Conceptual Final Landform Contours , Attachment 5 – Final Land Uses , and Attachment 6 – Rehabilitation Completion Criteria

Table C1 (Final land use and rehabilitation approval schedule)

	Disturbance type					
	Projective Disturbance area (ha)	Pre-mine land Use	Post-mine land use	Pre-mine land Agricultural Suitability Class	Post-mine Agricultural Suitability Class	Lot on Plan
Overburden Dumps	391 (subtotal)					
<i>Out of Pit Overburden Dumps</i>	141	Grazing	Light grazing	2	≤4	Lot 3 on GV90
<i>In Pit Overburden Dumps</i>	250	Grazing	Light grazing	2	≤4	Lot 3 on GV90
Residual Voids	36 (subtotal)					
<i>Below Grade Mining Voids</i>	36	Grazing	Water filled voids	2	NA	Lot 3 on GV90
Infrastructure	426 (subtotal)					
<i>Flat areas – Building areas, vehicle parking areas & ROM stockpile areas</i>	129	Grazing	Light grazing	2	≤4	Lot 3 on GV90
<i>Water Management Structures</i>	77	Grazing	Light grazing	2	≤4	Lot 3 on GV90
<i>Minor Tracks</i>	29	Grazing	Light grazing	2	≤4	Lot 3 on GV 90

Haul Road (ML70355)	84	Grazing	Light grazing	2	≤4	Lot 3 on GV90
Haul Road (ML70354) (includes topsoil stockpiles, water management and drainage facilities)	107	Grazing	Property Access Road	2	≤4	Lot 5 on RP866478, Lot 4 on RP894192, 8/61489 (Annandale Road) and 16/37557 (Un-named Road)
TOTAL	853					

C2	Progressive rehabilitation must commence when areas become available within the operational land.
C3	Topsoil reserves must be determined and managed in such a manner as to facilitate the rehabilitation outcomes nominated in Table C1 (Final land use and rehabilitation approval schedule) .
C4	Where reasonable and practical, rehabilitation of the site should include native species endemic to the area.

Table C2 (Landform design)

Rehabilitated Landform	Slope – Vertical: Horizontal (%)	Vertical height (m) from natural ground level	Maximum distance between contour banks (m)
Elevated Overburden Dump	15	30	88
Water Management Structures	30	15	45
Infrastructure (non-roads)	2-5	5	500
Roads/Tracks	3-5	5	500

C5	Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Table C1 (Final land use and rehabilitation approval schedule) and landform design criteria in Table C2 (Landform design) within seven (7) years of the commencement date.
C6	Cleared vegetation from the site must be managed in accordance with the following hierarchy: (a) reuse, e.g. use of logs and tree stumps as shelter for fauna in rehabilitated areas; (b) recycle, e.g. mulching of vegetation and use in rehabilitation on the site; and (c) other alternative management options implemented in a way that causes the least amount of environmental harm, e.g. carrying out burning of waste vegetation under the appropriate permits.
C7	Residual Voids Residual voids must comply with the following outcomes: (a) residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself, and subject to any other condition within this environmental authority; and (b) residual voids must comply with Table C3 (Residual void design).

Table C3 (Residual void design)

Material	Residual Void high wall – competent rock maximum slope (%)	Residual Void low wall – incompetent rock maximum slope (%)	Total void surface area (ha)
Intact pit slope	104 (46 degrees)	NA	36
Backfill spoil	NA	62 (32 degrees)	

C8	Infrastructure All infrastructure, constructed by or for the environmental authority holder during the mining activities including water storage structures, must be removed from the site prior to mining lease surrender, except where agreed in writing by the post mining land owner / holder.
C9	Procedures for managing spills and uncontrolled discharge events must be detailed in mine planning documentation.
C10	Weed Management A weed management plan must be developed within thirty (30) business days of the commencement date and implemented for this site outlining: (a) areas of control priority and the methods used to determine such areas; (b) strategies to promote dense grass growth (which out-competes weeds) through reduced disturbance; (c) monitoring methodologies that document the spread of weeds and any new outbreaks; (d) methods for the control of weeds. These methods should include best management practice and/or those outlined in the Department of Agriculture and Fisheries' (or its successor's) 'Invasive plant and animal fact sheets'; (e) stringent wash-down and inspection procedures for both machinery involved in clearing/construction activities and those operating outside of designated roads during mine operation; and (f) promotion of the awareness of weed management issues at the site.
C11	Significant residual impacts to prescribed environmental matters, other than if the impacts were authorised by an environmental authority issued before the commencement of the <i>Environmental Offsets Act 2014</i>, are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> unless the impact is specified in Table C4 (Significant residual impacts to prescribed environmental matters).

Table C4 (Significant residual impacts to prescribed environmental matters)

Prescribed environmental matter	Easting (GDA94)	Northing (GDA94)	Maximum extent of impact (ha)
Prescribed Regional Ecosystem (RE) that are endangered REs			
RE 11.9.1 <i>Acacia harpophylla</i> - <i>Eucalyptus cambageana</i> woodland to open forest on fine grained sedimentary rocks	640161	7552865	1.27
RE 11.9.5 <i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest to woodland on fine-grained sedimentary rocks	638639	7552977	2.62

C12	Records demonstrating that each impact to a prescribed environmental matter not listed in Table C4 (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
C13	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in Table C4 (Significant residual impacts to prescribed environmental matters), unless lesser extent of the impact has been approved in accordance with condition C15.
C14	Prior to the commencement of any future impacts to a prescribed environmental matter for which an environmental offset is required by condition C13, a report completed by an appropriately qualified person that contains an analysis of the estimated maximum extent of impact to each prescribed environmental matter must be provided to the administering authority
C15	The report required by condition C14 must be approved by the administering authority before the notice of election, if applicable, is given to the administering authority
C16	The notice of election for the environmental offset required by condition C15, if applicable, must be provided to the administering authority no less than three months before the proposed commencement of the significant residual impacts for which the environmental offset is required.

Schedule D: Noise	
Condition number	Condition
D1	Noise Nuisance Subject to conditions D2 and D3 noise from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
D2	Coal haulage activities on infrastructure lease ML70355 may exceed the noise limits in Table D4 (Noise limits) but must not exceed the general noise limit compliance criterion for road traffic of 63dB(A) as an L ₁₀ (18 hour) target.
D3	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D4 (Noise limits) are not being exceeded, then the holder is not in breach of condition D1 . Monitoring must include: (a) LA, max adj, T; (b) the level and frequency of occurrence of impulsive or tonal noise; (c) atmospheric conditions including wind speed and direction; and (d) location, date and time of recording.

Table D4 (Noise limits)

Noise Descriptor dB(A) measured as	Monday to Saturday			Sundays and public holidays		
	6am – 6pm	6pm – 10pm	10pm – 6am	9am – 6pm	6pm – 10pm	10pm – 9am
Background L_{A90}	35	30	30	35	30	30
L _{A10} , adj, 10 mins	35+5	30+5	30+3	35+5	30+5	30+0
L _{A1} , adj, 10mins	35+10	30+10	30+5	35+10	30+10	30+5

D4	If monitoring indicates exceedance of the limits in Table D4 (Noise limits), then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; or (b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.
D5	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's 'Noise Management Manual' (ESR/2016/2195).
D6	Vibration Nuisance Subject to conditions D7 and D8, vibration from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.
D7	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D5 (Air blast Overpressure Level – 'Sensitive and Commercial Place') and Table D6 (Vibration Limits – 'Sensitive and Commercial Place') are not being exceeded then the holder is not in breach of condition D6. Monitoring must include: (a) location of the blast/s within the mining area (including which bench level); (b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and (c) location, date and time of recording.

Table D5 (Air blast Overpressure Level – 'Sensitive and Commercial Place')

Noise Parameter	Air blast Overpressure measured at a sensitive or commercial place	
	Monday to Saturday 9am – 7pm	Other times and public holidays 9am – 7pm
Air blast overpressure level (dB [Lin] Peak)	115 dB (80 th percentile)	115 dB (80 th percentile)
Air blast overpressure level (dB [Lin] Peak)	120 dB (maximum)	120 dB (maximum)

Table D6 (Vibration Limits – ‘Sensitive and Commercial Place’)

	Monday to Saturday	Sundays and Public Holidays
Blasting permitted between:	6.00am – 7.00pm	9.00am – 7.00pm
Sensitive place	Vibration limit ¹	
Houses and low-rise residential buildings and commercial buildings not included below.	10 mm/sec peak particle velocity	10 mm/sec peak particle velocity
Commercial and industrial buildings or structures of reinforced concrete or steel construction	25 mm/sec peak particle velocity	25 mm/sec peak particle velocity

Note:

1: As measured at sensitive place.

D8	If monitoring indicates exceedance of the relevant limits in Table D5 (Air blast Overpressure Level – ‘Sensitive and Commercial Place’) and Table D6 (Vibration Limits – ‘Sensitive and Commercial Place’), then the environmental authority holder must: (a) address the complaint including the use of appropriate dispute resolution if required; or (b) as soon as practicable or at the direction of the administering authority, implement vibration abatement measures so that vibration from the activity does not result in further exceedance.
D9	When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.

Schedule E: Social	
Condition number	Condition
E1	All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken.

Schedule F: Waste	
Condition number	Condition
F1	Tyres Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options should be stockpiled in volumes less than three (3) metres in height and two hundred (200) square metres in area and at least ten (10) metres from any other tyre storage area.
F2	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a ten (10) metre radius of the scrap tyre storage area.
F3	Disposing of scrap tyres in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as possible but not directly on the pit floor.
F4	Scrap tyres disposed within the operational land must not impede saturated aquifers and compromise the stability of the consolidated landform.
F5	Waste Management Plan A waste management plan must be developed and implemented within thirty (30) business days of commencement and must include: (a) waste production; (b) waste disposal; (c) waste minimisation; (d) waste management locations; and (e) management methods.

Schedule G: Water	
Condition number	Condition
G1	Contaminant Release Contaminants that will, or have the potential to, cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.
G2	The release of contaminants to waters must only occur from the release points specified in Table G1 (Contaminant Release Points, Sources and Receiving Waters) .

Table G1 (Contaminant Release Points, Sources and Receiving Waters)

Release Point (RP)	Easting (GDA94)	Northing (GDA94)	Contaminant Source and Location	Monitoring Point	Receiving waters description
450 ML Dam	638475	7552988	450 ML Dam	Dam spillway	North Creek

G3	The release of contaminants to waters must not exceed the release limits stated in Table G2 (Contaminant Release Limits) when measured at the monitoring points specified in Table G1 (Contaminant Release Points, Sources and Receiving Waters) for each quality characteristic.
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Table G2 (Contaminant Release Limits)

Quality Characteristic	Release Limits	Monitoring Frequency	Comments
Electrical conductivity (µS/cm)	2500	Daily during release	
pH (pH Unit)	6.5 -9.0	Daily during release	
Turbidity (NTU)	4000	Daily during release	Turbidity is required to assess ecosystems impacts and can provide instantaneous results
Sulphate (SO ₄ ²⁻) (mg/L)	1000	Daily during release	Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC & ARMCANZ 2000 stock water quality guidelines.

G4	The release of contaminants to waters from the release points must be monitored at the locations specified in Table G1 (Contaminant Release Points, Sources and Receiving Waters) for each quality characteristic and at the frequency specified in Table G2 (Contaminant Release Limits) and Table G3 (Release Contaminant Trigger Investigation Levels) .
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Table G3 (Release Contaminant Trigger Investigation Levels)

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	335	<i>Based on 80th percentile of background data</i>	Commencement of release and thereafter weekly during release
Arsenic	13	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Cadmium	0.2	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Chromium	1	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Copper	5	<i>Based on 80th percentile of background data</i>	
Iron	382	<i>Based on 80th percentile of background data</i>	
Lead	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Mercury (inorganic)	0.6	<i>Based on Default Water Quality Objectives</i>	
Nickel	11	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Zinc	15	<i>Based on 80th percentile of background data</i>	
Boron	370	<i>For aquatic ecosystem protection, based on SMD guideline</i>	Commencement of release and thereafter weekly during release
Cobalt	90	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Manganese	1900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Molybdenum	34	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Selenium	11	<i>Based on 80th percentile of background data</i>	
Silver	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Uranium	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Vanadium	10	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	

Ammonia	1000	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Nitrate	1100	<i>For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN</i>	
Petroleum hydrocarbons (C6-C9)	20		
Petroleum hydrocarbons (C10-C36)	100		
Fluoride (total)	2000	<i>Protection of livestock and short term irrigation guideline</i>	

Note:

- 1: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
- 2: Default Water Quality Objective (WQO) of Environmental Protection (Water) Policy 2009 Isaac River Sub-basin Environmental Values and Water Quality Objectives Basin No. 130 (part), including all waters of the Isaac River Sub-basin (including Connors River) September 2011, noting this document refers to the National Water Quality Guidelines (ANZECC & ARMCANZ 2000)
3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR

G5	If quality characteristics of the release exceed any of the trigger levels specified in Table G3 (Release Contaminant Trigger Investigation Levels) during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table G3 (Release Contaminant Trigger Investigation Levels) and: (1) where the trigger values are not exceeded then no action is to be taken; or (2) where the downstream results exceed the trigger values specified in Table G3 (Release Contaminant Trigger Investigation Levels) (3) for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and; (a) if the result is less than the background monitoring site data, then no action is to be taken; or (b) if the result is greater than the background monitoring site data, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with G5 (3)(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>
G6	If an exceedance in accordance with condition G5 (3)(b)(ii) is identified, the holder of the environmental authority must notify the administering authority within fourteen (14) days of receiving the result.
G7	Contaminant Release Events The environmental authority holder must install, operate and maintain a stream flow gauging station to determine and record stream flows at the locations upstream of each release point as specified in Table G4 (Contaminant Release during Flow Events) for any receiving water into which a release occurs.
G8	Notwithstanding any other condition of this environmental authority, the release of contaminants to waters must only take place during periods of natural flow events specified as minimum flow in Table G4 (Contaminant Release during Flow Events) for the contaminant release point(s) specified in Table G1 (Contaminant Release Points, Sources and Receiving Waters).

Table G4 (Contaminant Release during Flow Events)

Receiving water description	Release Point	Gauging station description	Easting (GDA94)	Northing (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Flow recording Frequency
North Creek	Moorvale South Upstream North Creek (UPNC)	Gauging Station 2	640064	7557107	≥0.03 m³/sec	Continuous (minimum daily)

G9	Contaminant release flow rate must not exceed twenty (20) percent of receiving water flow rate.
G10	The daily quantity of contaminants released from each release point must be measured and recorded at the monitoring points in Table G1 (Contaminant Release Points, Sources and Receiving Waters) .
G11	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.
G12	Notification of Release Event The environmental authority holder must notify the administering authority via WaTERS no later than six (6) hours of having commenced releasing mine affected water to the receiving environment. Notification must include the submission of the following information: (a) release commencement date and time; (b) expected release cessation date and time; (c) release point/s; (d) release volume (estimated); (e) receiving water/s including the natural flow rate; and (f) any details (including available data) regarding likely impacts on the receiving water(s). <i>Note: Notification to the administering authority must be via the administering authority's Water Tracking and Electronic Reporting System (WaTERS).</i>
G13	The environmental authority holder must notify the administering authority via WaTERS within twenty-four (24) hours after cessation of a release of the cessation of a release notified under condition G12 and within twenty-eight (28) days provide the following information: (a) release cessation date and time; (b) natural flow volume in receiving water; (c) volume of water released;

	(d) details regarding the compliance of the release with the conditions of Schedule G: Water of this environmental authority (e.g. contamination limits, natural flow, discharge volume, etc.); (e) all in-situ water quality monitoring results; and (f) any other matters pertinent to the water release event.
G14	Notification of Release Event Exceedance If the release limits defined in Table G2 (Contaminant Release Limits) are exceeded, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.
G15	The environmental authority holder must be notified via WaTERS within twenty-eight (28) days of a release that exceeds the conditions of this authority and provide a report to the administering authority detailing: (a) the reason for the release; (b) the location of the release; (c) all water quality monitoring results; (d) any general observations; (e) all calculations; and (f) any other matters pertinent to the water release event.
G16	Monitoring of Water Storage Quality Water storages stated in Table G5 (Water Storage Monitoring) which are associated with the release points must be monitored for the water quality characteristics specified in Table G6 (Onsite Water Storage Contaminant Limits) at the monitoring locations and at the monitoring frequency specified in Table G5 (Water Storage Monitoring).

Table G5 (Water Storage Monitoring)

Water Storage Description	Easting (GDA94)	Northing (GDA94)	Monitoring Location	Frequency of Monitoring
450 ML Dam	638924	7554093	Edge of dam	Quarterly
300 ML Dam	639642	7553463	Edge of dam	Quarterly
20 ML Dam	638789	7555256	Edge of dam	Quarterly
ROM Dam	638652	7552141	Edge of dam	Quarterly

G17	In the event that waters storages defined in Table G5 (Water Storage Monitoring) exceed the contaminant limits defined in Table G6 (Onsite Water Storage Contaminant Limits) , the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by all livestock.
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Table G6 (Onsite Water Storage Contaminant Limits)

Quality Characteristic	Test Value ¹	Contaminant Limit ²
pH (pH unit)	Range	4 – 9 ³
EC (µS/cm)	Maximum	5970
Sulphate (mg/L)	Maximum	1000
Fluoride (mg/L)	Maximum	2
Aluminium (mg/L)	Maximum	5
Arsenic (mg/L)	Maximum	0.5
Cadmium (mg/L)	Maximum	0.01
Cobalt (mg/L)	Maximum	1
Copper (mg/L)	Maximum	1
Lead (mg/L)	Maximum	0.1
Nickel (mg/L)	Maximum	1
Zinc (mg/L)	Maximum	20

Note:

1: Total measurements (unfiltered) must be taken and analysed.

2: With the exception of pH, contaminant limits are based on ANZECC & ARMCANZ (2000) stock water quality guidelines.

3: pH limit based on page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

G18	Receiving Environment Monitoring and Contaminant Trigger Levels The quality of the receiving waters must be monitored at the locations specified in Table G7 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points) for each quality characteristic and at the monitoring frequency stated in Table G8 (Receiving Waters Contaminant Trigger Levels) .
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Table G7 (Receiving Water Upstream Background Sites and Down Stream Monitoring Points)

Monitoring Points	Receiving Waters Location Description	Easting (GDA94)	Northing (GDA94)
Upstream Background Monitoring Points			
Moorvale South Upstream North Creek (UPNC)	North Creek upstream, along haul road (ML70355)	640064	7557107
Upstream Isaac River (UIR)	Isaac River upstream, at rail crossing	631783	7553749
Downstream Monitoring Points			
Downstream North Creek (DNR)	North Creek downstream	640210	7549220
Downstream Isaac River (DIR)*	Isaac River downstream	642312	7548162
Downstream Isaac River – DNRM	Downstream Isaac River – Deverill Gauging station	642713	7547619

*Note: Monitoring at the Downstream Isaac River (DIR) monitoring point is not required to determine compliance with Condition **G18** where Downstream Isaac River – DNRM monitoring point can be demonstrated to provide equivalent data.*

Table G8 (Receiving Waters Contaminant Trigger Levels)

Quality Characteristic	Trigger Level	Monitoring Frequency	Comments
pH	6.5 – 8.5	Daily during the release	See Table G2 (Contaminant Release Limits) comments
Electrical Conductivity (µS/cm)	1000		
Turbidity (NTU)	424		
Sulphate (SO ₄ ²⁻) (mg/L)	1000		

G19	If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table G8 (Receiving Waters Contaminant Trigger Levels) during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and: (a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or (b) where the downstream results exceed the upstream results, complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. <i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with G19 (2)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i>
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G20	Receiving Environment Monitoring Program (REMP) A REMP must be developed and implemented for the duration of mining activities to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving water. A copy of the REMP must be provided to the administering authority prior to its implementation and due consideration given to any comments made on the REMP by the administering authority. For the purposes of the REMP, the receiving environment is the waters of the 'North Creek', 'Devlin Creek' and 'Harrybrandt Creek' and connected waterways within twenty (20) kilometres downstream of the release.
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G21	The REMP must address (but not necessarily be limited to) the following: (a) description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); (b) description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the '<i>Environmental Protection (Water) Policy 1997</i>'); (c) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; (d) water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP; (e) monitoring for any potential adverse environmental impacts caused by the release; (f) monitoring of stream flow and hydrology; (g) monitoring of toxicants should consider the indicators specified in Table G3 (Release Contaminant Trigger Investigation Levels) to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ 2000 guidelines for slightly to moderately disturbed ecosystems; (h) monitoring of physical chemical parameters as a minimum those specified in Table G2 (Contaminant Release Limits) (in addition to dissolved oxygen saturation and temperature); (i) monitoring biological indicators (for macroinvertebrates in accordance with the <i>AusRivas</i> methodology) and metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, and/or the most recent version of AS5667.1 <i>Guidance on Sampling of Bottom Sediments</i> for permanent, semi-permanent water holes and water storages; (j) the locations of monitoring points (including the locations specified in Table G8 (Receiving Waters Contaminant Trigger Levels) which are background and downstream impacted sites for each release point); (k) the frequency or scheduling of sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within two (2) years (depending on wet season flows) in accordance with the '<i>Queensland Water Quality Guidelines 2009</i>'. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges; (l) specify sampling and analysis methods and quality assurance and control; (m) any historical datasets to be relied upon; (n) description of the statistical basis on which conclusions are drawn, and (o) any spatial and temporal controls to exclude potential confounding factors.
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G22	Water Reuse Mine affected water may be piped or trucked or transferred by some other means and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party for the purpose of: (a) supplying stock water; (b) supplying irrigation water; (c) supplying water for construction and/or road maintenance; or (d) some other purpose, to which the administering authority agrees in writing.
G23	If the responsibility of water contaminated by mining activities (the water) is given or transferred to another person in accordance with condition G22: (a) the responsibility for the mine affected water must only be given or transferred in accordance with a written agreement (the third-party agreement); (b) the third-party agreement must include a commitment from the person utilising the mine affected water to use it in such a way as to prevent environmental harm or public health incidents and specifically make the persons aware of the General Environmental Duty (GED) under s. 319 of the <i>Environmental Protection Act 1994</i>, environmental sustainability of the water disposal and protection of environmental values of waters; and (c) the third-party agreement must be signed by both parties to the agreement.
G24	Water General All determinations of water quality must be: (a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements; (b) made in accordance with methods prescribed in the latest edition of the administering authority's 'Monitoring and Sampling Manual'; (c) collected from the monitoring locations identified within this environmental authority, within ten (10) hours of each other where possible; (d) carried out on representative samples; and (e) laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used. <i>Note: Condition G24 requires the Monitoring and Sampling Manual to be followed and where it is not followed because of exceptional circumstances this should be explained and reported with the results.</i>
G25	The release of contaminants directly or indirectly to waters: (a) must not produce any visible discolouration of receiving waters; and (b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

G26	Annual Water Monitoring Reporting The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return: (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring point at which the sample was taken; (d) the measured or estimated daily quantity of the contaminants released from all release points; (e) the release flow rate at the time of sampling for each release point; (f) the results of all monitoring and details of any exceedances with the conditions of this environmental authority; and (g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
G27	Temporary Interference with waterways Temporarily destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the latest edition of the Department of Resources' (or its successor's) Guideline – <i>'Riverine protection permit exemption requirements'</i> (WSS/2013/726)
G28	A Water Management Plan must be developed and implemented within thirty (30) business days of the commencement date and must provide for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity.
G29	The Water Management Plan must include at least all the following components: (a) contaminant source study; (b) site water balance and model; (c) water management system; (d) saline drainage prevention and management measures; (e) acid rock drainage prevention and management measures (if applicable); (f) emergency and contingency planning; and (g) monitoring and review.
G30	Each year the holder of the environmental authority must undertake a review of the Water Management Plan prior to the wet season (i.e. by 1 November) and a further review following the wet season (i.e. by 1 May the following year) to ensure that proper and effective measures, practices or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

G31	Saline Drainage The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.
G32	Acid Rock Drainage The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage
G33	Storm and Water sediment controls An Erosion and Sediment Control Plan must be developed at least thirty (30) business days prior to the commencement of activities and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of storm water.
G34	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.
G35	Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.
G36	Sediment Dams Any sediment dam operated within the operational land must be designed and maintained to contain a 1 in 10 year ARI twenty-four (24) hour rainfall event plus twenty (20) percent for sediment storage.
G37	Sewage Effluent All effluent released from the treatment plant to the evaporation pond/s must be monitored at the frequency and for the parameters specified in Table G9 (Sewage Effluent Quality Targets for Dust Suppression) .

Table G9 (Sewage Effluent Quality Targets for Dust Suppression)

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	<20	mg/L	Max	Quarterly
pH	6.5 – 8.5	pH units	Range	Quarterly
Free Chlorine Residual	0.5 – 0.9	mg/L	Range	Quarterly
Faecal Coliforms, based on the average of a minimum of five samples collected	<1000	CFU/100mL (Colony-forming units per 100 millilitres)	Max	Quarterly

G38	Sewage effluent used for dust suppression or irrigation must not exceed sewage effluent release limits defined in Table G9 (Sewage Effluent Quality Targets for Dust Suppression) .
G39	Sewage effluent used for dust suppression or irrigation must not cause spray drift or over spray to any sensitive place.
G40	Subject to conditions G37, G38, G39 and G41 , sewage effluent from sewage treatment facility must be reused or evaporated and must not be directly released from the sewage treatment plant to any waterway.
G41	In periods of wet weather or following wet weather, when no further irrigation of effluent is reasonable and practical and when effluent storage ponds are full, the release of effluent to waters is permitted from the licensed release point(s) in Attachment 4 – Release Points and Sediment Dam Locations and in accordance with the release limits in Table G10 (Sewage Effluent Quality Targets for Release to Surface Waters) .

Table G10 (Sewage Effluent Quality Targets for Release to Surface Waters)

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	<20	mg/L	Max	Quarterly and pre-release
Suspended Solids	30	mg/L	Max	Pre-release
pH	6.5-8.5	pH units	Range	Quarterly and pre-release
Dissolved Oxygen	>6.5	mg/L	Min	Pre-release
Free Chlorine Residual	0.5-0.9	mg/L	Range	Quarterly and pre-release
Faecal Coliforms, based on the average of a minimum of five samples collected	<1000	CFU/100mL (Colony-forming units per 100 millilitres)	Max	Quarterly and pre-release
Nitrogen	5	mg/L	Max	Pre-release
Phosphorous	0.05	Mg/L	Max	Pre-release

G42	Groundwater in existing bores will be monitored at the request of the administering authority, following receipt of a legitimate complaint relating to groundwater.
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Schedule J: Regulated Structures	
Condition number	Condition
J1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures</i> (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.
J2	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.
J3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
J4	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 <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
J5	Construction of a regulated structure is prohibited unless: (a) the holder of the environmental authority 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.
J6	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 <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933) and must be recorded in the Register of Regulated Structures.

J7	Regulated structures must: (a) be designed and constructed in compliance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (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 a 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.
J8	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.
J9	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 ten (10) business days of this condition taking effect; (b) prior to the operation of the new regulated structure; and (c) if the emergency action plan is amended, within five (5) business days of it being amended.
J10	Operation of a regulated structure is prohibited unless the holder of the environmental authority 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 J5; (b) a set of 'as constructed' drawings and specifications; (c) certification of the 'as constructed drawings and specifications' in accordance with condition J8; (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 of the environmental authority has entered the details required under this authority, into a Register of Regulated Structures; and (g) there is a current operational plan for the regulated structure

J11	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
J12	Conditions J13 to J15 inclusive only apply to Regulated Dams which have not been certified as low consequence category for 'failure to contain – overtopping'.
J13	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.
J14	The holder of the environmental authority must, as soon as practicable but within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
J15	The holder of the 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.
J16	The holder of the environmental authority must record any changes to the MRL in the Register of Regulated Structures.
J17	The holder of the environmental authority 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.
J18	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).
J19	The holder of the 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.
J20	The holder of the 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.
J21	Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
J22	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.

J23	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
J24	The holder of the environmental authority must within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority: (a) The recommendations section of the annual inspection report; and (b) If applicable, any actions being taken in response to those recommendations; and (c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder of this environmental authority, provide this to the administering authority within ten (10) business days of receipt of the request.
J25	The holder of the environmental authority 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 of this environmental authority on transfer of this authority
J26	Regulated structures must not be abandoned but be either: (a) decommissioned and rehabilitated to achieve compliance with condition J27; or (b) be left in-situ for a use by the landholder of this environmental authority provided that: (i) it no longer contains contaminants that will migrate into the environment; and (ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and (c) the holder of the environmental authority of the environmental authority and the landholder of this environmental authority agree in writing that the: (i) dam will be used by the landholder of this environmental authority following the cessation of the environmentally relevant activity(ies); and (ii) landholder of this environmental authority is responsible for the dam, on and from an agreed date
J27	Unless specified by another condition of this environmental authority, before surrendering this environmental authority all regulated structures must be rehabilitated to achieve a safe, stable, non-polluting landform and meet the following requirements, where applicable: (a) For land that is not being cultivated by the landholder of this environmental authority: (i) groundcover, that is not a declared pest species is established and self-sustaining (ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining, and (iii) the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the mining activity(ies). (b) For land that is to be cultivated by the landowner, cover crop is revegetated, unless the landholder of this environmental authority will be preparing the site for cropping within 3 months of mining activities being completed.
J28	A Register of Regulated Structures must be established and maintained by the holder of the environmental authority for each regulated structure.

J29	The holder of the environmental authority must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated structure is submitted to the administering authority.
J30	The holder of the environmental authority must make a final entry of the required information in the Register of Regulated Structures once compliance with condition J10 and J11 has been achieved.
J31	The holder of the environmental authority must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
J32	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of the environmental authority of this authority, or their delegate, as being accurate and correct.
J33	The holder of the environmental authority 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

END OF CONDITIONS

Definitions

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

20th percentile flow means the 20th percentile of all daily flow measurements (or estimations) of daily flow over a 10 year period for a particular site. The 20th percentile calculation should only include days where flow has been measured (or estimated), i.e. not dry weather days.

acceptance criteria means the measures by which the actions implemented to rehabilitate the land are deemed to be complete (same as completion criteria).

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 as a result of mining activity.

administering authority means 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 or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

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

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

Annual exceedance probability or **AEP** the probability that at least one event in excess of a particular magnitude will occur in any given year.

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 inspections 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 operational plan.

appropriately qualified person means a person who has professional qualifications, training, skills or 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.

ARD means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

Assessed or assessment by a suitably qualified and experienced person in relation to a consequence 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.

Average recurrence interval (ARI) means the average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration.

authority means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

blasting means the use of explosive materials to fracture -

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

Certification means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, 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'.

climax community flora and fauna communities have attained a stable biological diversity and have reached equilibrium with the surrounding ecosystems.

commercial place means a place used as an office or for business or commercial purposes, other than a place within the boundaries of the operational land.

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

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

Consequence category means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193313).

dam means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. However; a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, *nor* does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is *not* a dam.

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

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/2016/193313) 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.

Development approval means a development approval under the *Planning Act 2016* (or under the repealed *Sustainable Planning Act 2009* or *Integrated Planning Act 1997*) in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

Effluent means treated waste water discharged from sewage treatment plants.

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.

EM Plan means the environmental management plan titled *Olive Downs Mine Environmental Management Plan* dated February 2005. Although legally the environmental authority is the enforceable document, not the EM Plan, if there was any need for interpretation of the conditions, then the interpretation should be in the context of the EM Plan.

environmental authority means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

environmental authority holder means the holder of this environmental authority.

Existing structure means a structure that prior to <> meets any or both of the following, a structure:

- (a) with a design that is in accordance with the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures and that is considerably in progress; and
- (b) that is under considerable construction or that is constructed.

Extreme Storm Storage – means a storm storage allowance determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193314) published by the administering authority.

Flare pit means containment area where any hydrocarbon that is discovered in an over-pressured reservoir during a drilling operation is diverted to, and combusted. The flare pit is only used during the drilling and work over process on a petroleum well.

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.

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

hazard 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 Hazard Categories and Hydraulic Performance of Dams (Version 2.0, 2009) published by the Environmental Protection Agency on its website.

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/2016/193314).

LA 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.

LA 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

LA, 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.

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

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

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

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

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

Low consequence dam means any dam that is not a high or significant consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193314).

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/2016/193314) published by the administering authority.

Manual means the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193314) published by the administering authority, as amended from time to time.

Mining activity(ies) means the activities:

- a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*; and
- b) all environmentally relevant activities authorised under this environmental authority.

Modification or modifying (see definition of 'construction')

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

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

offensive means causing reasonable offence or displeasure; 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);
- (b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure

peak particle velocity (ppv) means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).

protected area means –

- (a) a protected area under the *Nature Conservation Act 1992*; or
- (b) a marine park under the *Marine Parks Act 1992*; or
- (c) a World Heritage Area.

progressive rehabilitation means rehabilitation (defined below) undertaken progressively OR a staged approach to rehabilitation as mining operations are ongoing.

receiving environment means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

receiving waters means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

Register of Regulated Structures includes:

- (a) Date of entry in the register;
- (b) Name of the structure, its purpose and intended/actual contents;
- (c) (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) a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that
- (b) deals with strength and structural integrity of that tank or container;
- (c) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling
- (d) and well completion activities;
- (e) 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.

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.

Residual drilling material means waste drilling materials including muds and cuttings or cement returns from well holes and which have been left behind after the drilling fluids are pumped out.

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

saline drainage means the movement of waters, contaminated with salt(s), as a result of the mining activity.

self sustaining means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

sensitive place means:

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

Sewage means the used water of persons to be treated at a sewage treatment plant.

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 geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

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:

- (a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design;
- (b) 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.

Void means any constructed, open excavation in the ground.

Waste as defined in section 13 of the *Environmental Protection Act 1994*.

Watercourse has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means 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.

Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, and groundwater and any part thereof.

WaTERS means the Water Tracking and Electronic Reporting System.

Water year means the 12-month period from 1 July to 30 June.

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.

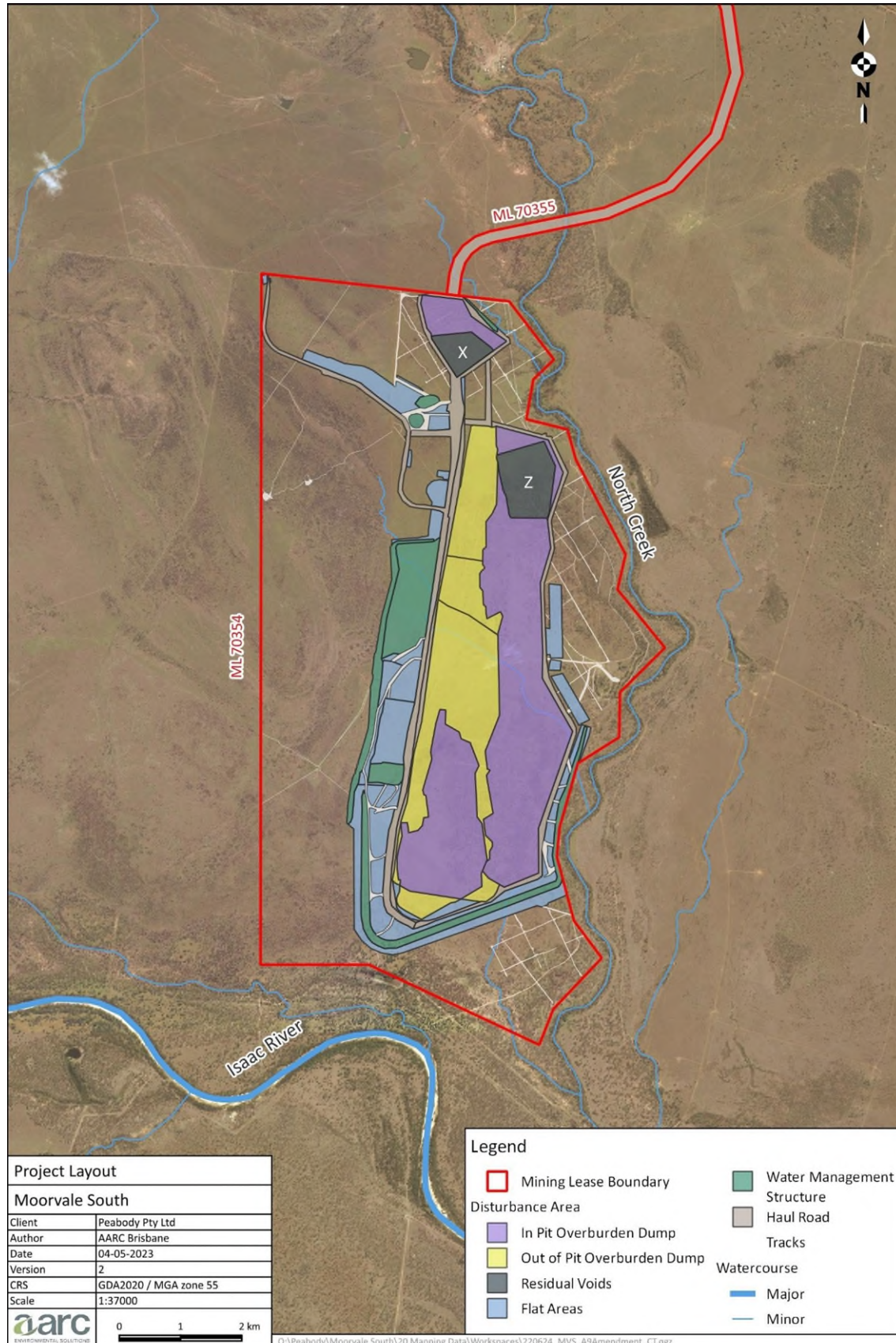
µg/L means micrograms per litre.

µS/cm means micro Siemens per centimetre.

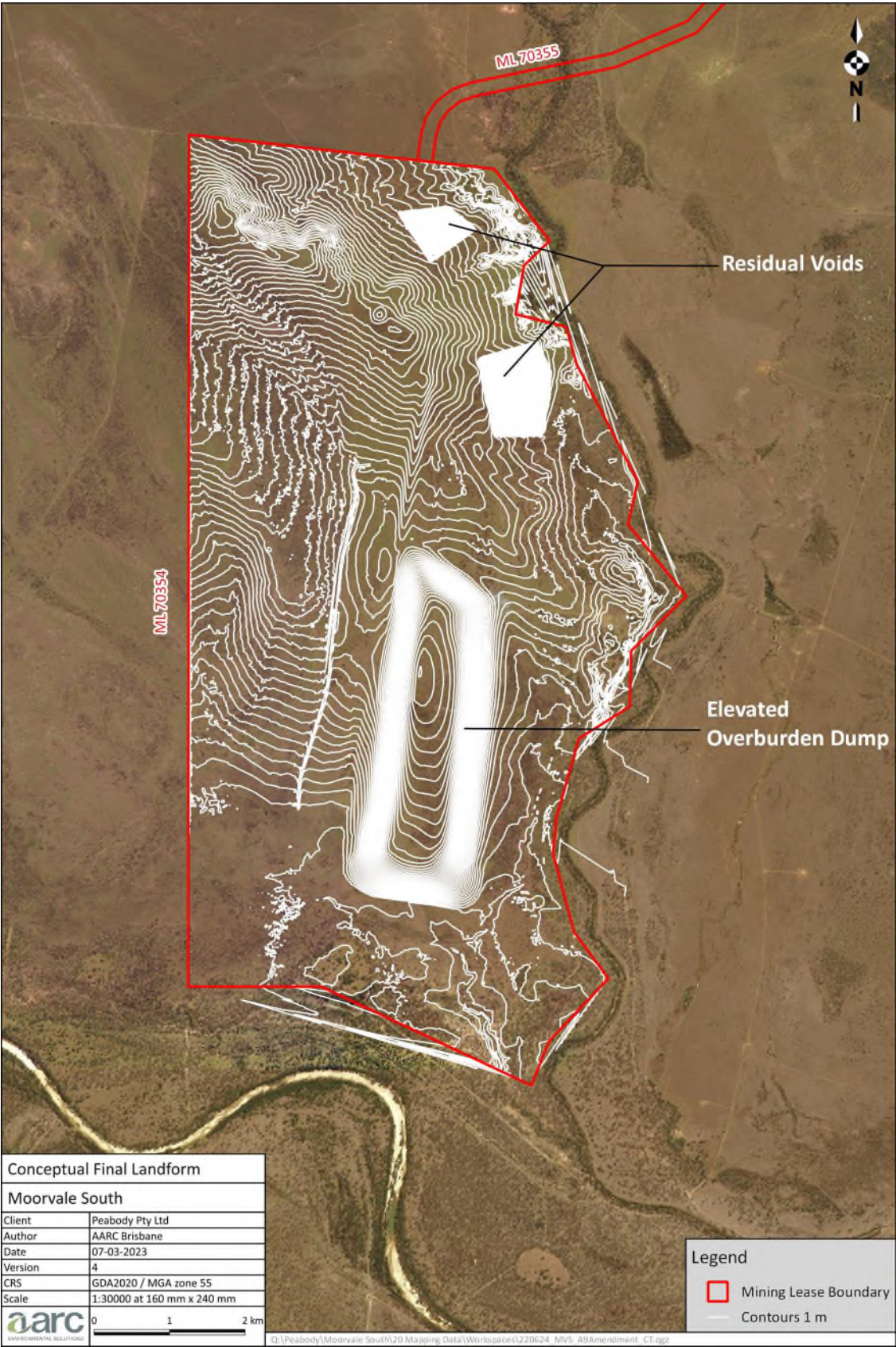
END OF DEFINITIONS

Appendices

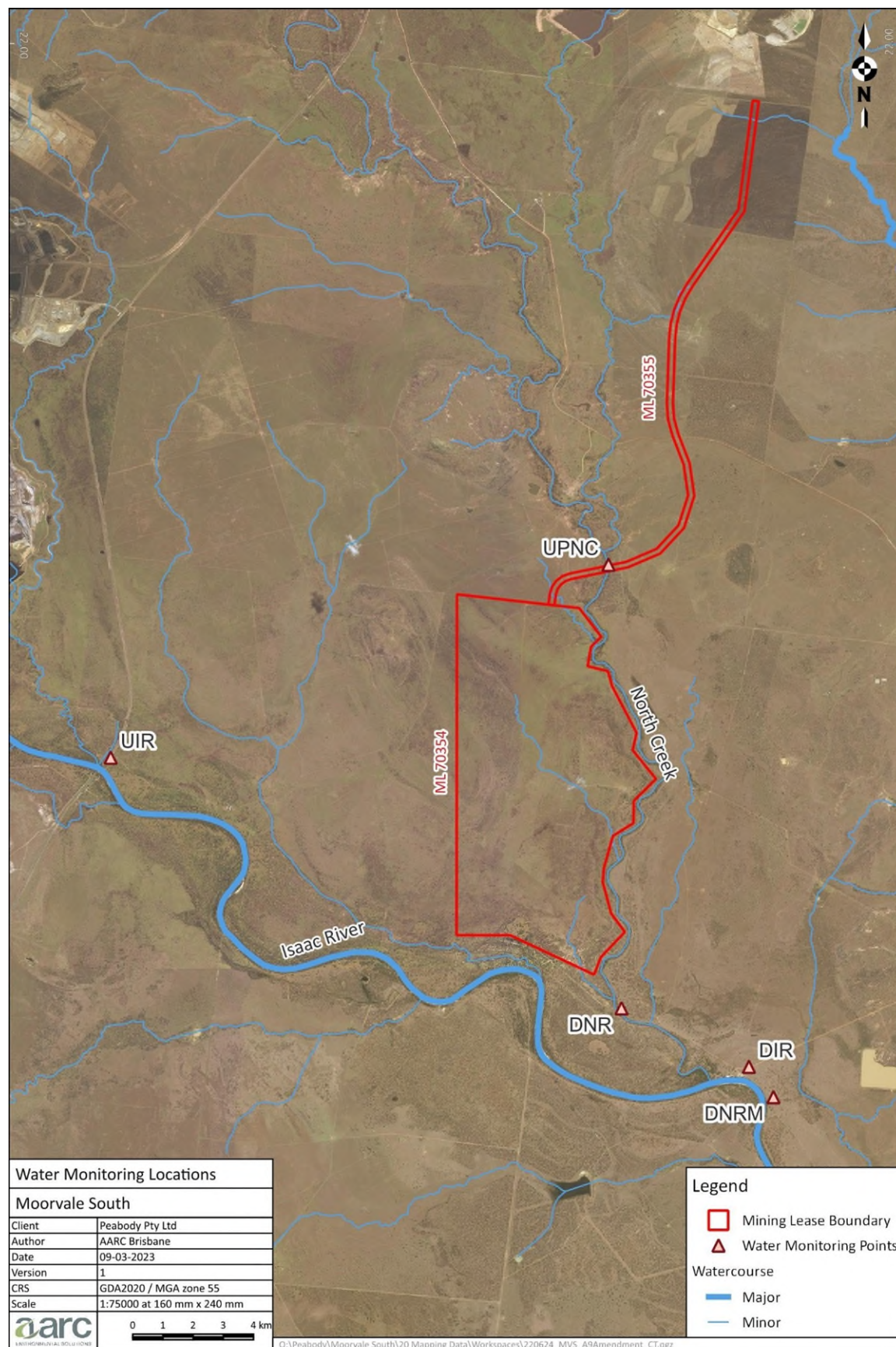
Attachment 1 – Authorised Disturbance Areas



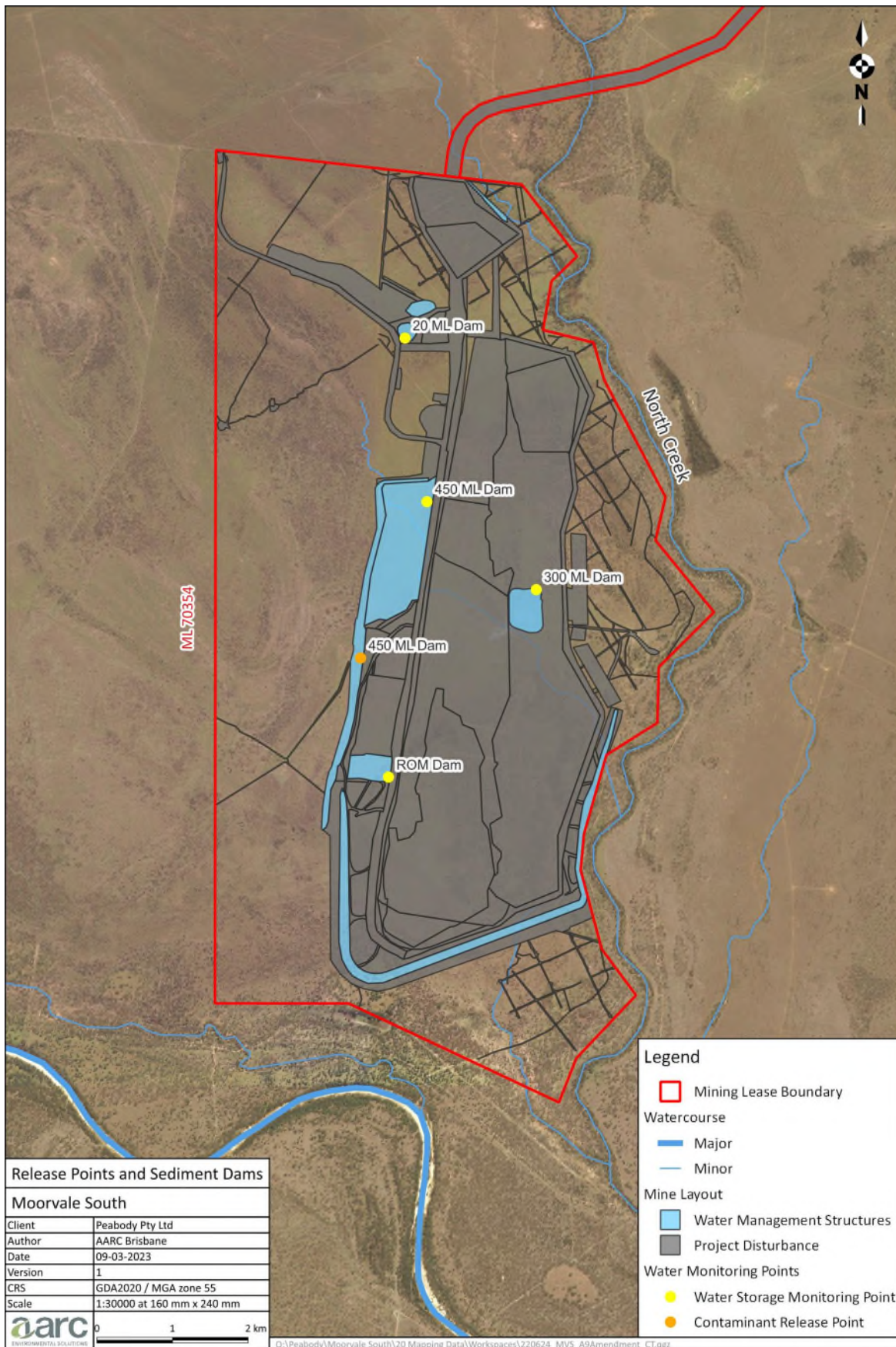
Attachment 2 – Conceptual Final Landform Contours



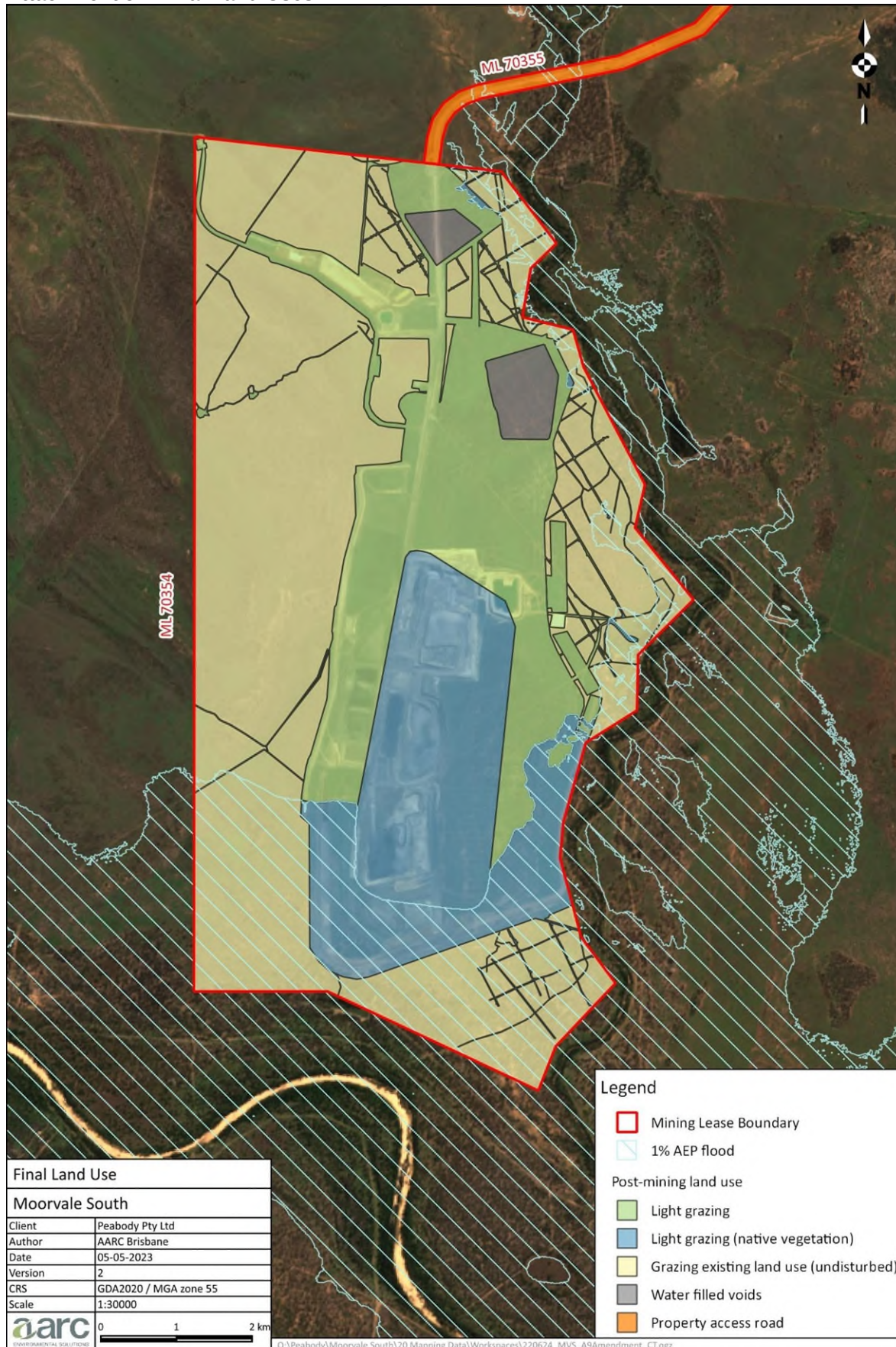
Attachment 3 – Water Monitoring Locations



Attachment 4 – Release Points and Sediment Dam Locations



Attachment 5 – Final Land Uses



Attachment 6 – Rehabilitation Completion Criteria

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
Overburden dumps	Long-term safety	Ensure final landform is geotechnically stable and safe	Geotechnical assessment of final landform by an appropriately qualified person ¹	Certification in the final rehabilitation report that slopes are safe and expected to achieve long term stability.
		Final landform is safe for humans and animals currently and in the foreseeable future	Presence and predicted long-term performance of safety barriers and signage	Evidence in final rehabilitation report that a safety risk assessment of the spoil dumps has been completed and proposed mitigation measures have been implemented.
	Non-polluting	Establishing a non-polluting landform with no significant risk of environmental harm	Downstream surface water, groundwater and stream sediment quality to be reported and interpreted by an appropriately qualified person ¹	Evidence in final rehabilitation report that monitoring data indicates that discharge from the rehabilitated landform is not causing environmental harm.
	Stable	Establish a stable landform with very low probability of mass rock falls or slope slippage	Geotechnical assessment of final landform by an appropriately qualified person ¹	Certification in the final rehabilitation that slopes are safe and expected to achieve long term stability.
			Slope angle and length	Evidence in the final rehabilitation report that final landform slopes comply with landform design criteria specified in Table C2 of the EA.
		Establish a stable landform with appropriate erosion rates	Erosion monitoring data to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that erosion rates are acceptable and will not compromise post mine land use.

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
	Sustainable land use	Self-sustaining vegetative cover to minimise erosion	Vegetation type and cover to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that vegetation type and groundcover is adequate for the post mine land use and appropriate for minimising erosion.
		Establish light grazing PMLU ^{2,3}	Vegetation type and cover to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that vegetation type and groundcover is adequate for the post mine land use and appropriate for minimising erosion.
			Density of key plant species to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that key plant species are present and in appropriate densities for the intended post mining land use.
			Abundance of declared plants to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that, if present, declared plant species are not sufficient to compromise intended post mining land use.
			Soil characteristics to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that site soil characteristics will support the intended post mining land use.
Residual Voids	Long-term safety	Final void landform is geotechnically stable and safe	Geotechnical assessment of final landform by an appropriately qualified person ¹	Geotechnical and erosional stability assessment of long term high wall, low wall and ramp stability by an appropriately qualified person ¹ to confirm the zone of instability. Evidence in the final rehabilitation report that remaining infrastructure and assets are outside the failure zone as identified by the geotechnical and erosional stability assessment.
		Residual voids are safe for humans and animals currently and	Presence and predicted long-term performance of safety barriers and signage	Evidence in final rehabilitation report that a safety risk of the void has been completed and proposed mitigation measures have been implemented, including:

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
		in the foreseeable future		- required safety barriers and signs are erected in accordance with relevant Australian Standards; and - safety barriers and signs are outside the failure zone as identified by the geotechnical and erosion stability assessment.
	Non-polluting	Establish a non-polluting water containment with no significant risk of environmental harm	Downstream surface water, groundwater and stream sediment quality to be reported and interpreted by an appropriately qualified person ¹	Evidence in final rehabilitation report that monitoring data indicates that discharge from the rehabilitated landform is not causing environmental harm.
			Void water balance modelling and water quality for the as-constructed final landform by an appropriately qualified person ¹	Evidence in the final rehabilitation report that the final void water body will remain as a permanent groundwater sink, with no significant risk of contaminant release to surrounding regional aquifers.
	Stable	Establish a stable final void with very low probability of mass rock falls or slope slippage	Geotechnical assessment of final landform by an appropriately qualified person ¹	Geotechnical and erosional stability assessment of long-term high wall, low wall and ramp stability by an appropriately qualified person¹ to confirm the zone of instability. Evidence in the final rehabilitation report that remaining infrastructure and assets are outside the failure zone as identified by the geotechnical and erosional stability assessment.
			Void slope angle and length	Evidence in the final rehabilitation report that EA required residual void criteria has been achieved, including: - Highwall slopes are ≤ 45 degrees in weathered overburden and ≤ 65 in fresh Permian material; - Low wall slope is ≤ 32 degrees; and

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
				Maximum (combined all pits) surface area of the void is ≤ 36 ha.
	Sustainable land use	NA	NA	NA
Infrastructure	Long-term safety	Final landform is safe for humans and animals currently and in the foreseeable future	Appropriate decommissioning and demolition of infrastructure, reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that a safety risk assessment of the decommissioned and retained (if applicable) infrastructure areas has been completed and proposed mitigation measures have been implemented, and that areas are safe for community and environment and are consistent with the intended post mining land use.
	Non-polluting	Establishing a non-polluting landform with no significant risk of environmental harm	Downstream surface water, groundwater and stream sediment quality to be reported and interpreted by an appropriately qualified person ¹	Evidence in final rehabilitation report that monitoring data indicates that discharge from the rehabilitated landform is not causing environmental harm.
			Contaminated land assessment of relevant areas undertaken by an appropriately qualified person ¹ , and if required, a site investigation report including a site suitability statement prepared and submitted in accordance with the provisions of Chapter 7, Part 8 of the EP Act (applicable to infrastructure areas, roads and tracks, and laydown areas)	Where applicable, evidence in final rehabilitation report that measures required in the site contaminated land investigation report have been implemented.

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
	Stable	Establish a stable landform with very low probability of mass rock falls or slope slippage	Geotechnical assessment of final infrastructure landform by an appropriately qualified person ¹	Certification in the final rehabilitation that rehabilitated infrastructure slopes are safe and expected to achieve long term stability consistent with intended PMLU.
		Establish a stable landform with appropriate erosion rates	Erosion monitoring data to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that erosion rates are acceptable and will not compromise PMLU.
		Self-sustaining vegetative cover to minimise erosion	Vegetation type and cover to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that vegetation type and groundcover is adequate for the PMLU and appropriate for minimising erosion.
	Sustainable land use	Establish light grazing PMLU ³	Vegetation type and cover to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that vegetation type and groundcover is adequate for the PMLU and appropriate for minimising erosion.
			Density of key plant species to be report and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that key plant species are present and in appropriate densities for the intended PMLU.
			Abundance of declared plants to be report and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that, if present, declared plant species are not sufficient to compromise intended PMLU.
			Soil characteristics to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that site soil characteristics will support the intended PMLU.

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
Water Management Infrastructure	Long-term safety	Final landform is safe for humans and animals currently and in the foreseeable future	Safety assessment of retained water infrastructure prepared by an appropriately qualified person ¹	Certification in the final rehabilitation report that retained structures meet the design criteria and are structurally sound.
			Appropriate decommissioning of regulated structures and other dams	Evidence in the final rehabilitation report that decommissioning of regulated infrastructure and other dams have been completed and proposed mitigation measures have been implemented
	Non-polluting	Establishing a non-polluting landform with no significant risk of environmental harm	Downstream surface water, groundwater and stream sediment quality to be reported and interpreted by an appropriately qualified person ¹	Evidence in final rehabilitation report assesses monitoring data and indicates that discharge from the rehabilitated landform is not causing environmental harm. Evidence in final rehabilitation report that water quality consistently meets the requirements for livestock watering and or other uses consistent with the PMLU.
			Contaminated land assessment prepared by an appropriately qualified person ¹	Evidence in final rehabilitation report that measures required in the site contaminated land investigation report have been implemented.
	Stable	Establish a structural integrity of retained dams	Structural integrity to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that remaining structures meet the design criteria and are structurally sound.
	Sustainable land use	Establish light grazing PMLU ³	Water quality in retained structure to be reported and interpreted by an appropriately qualified person ¹ (applicable to retained water storages, subject to a landholder agreement)	Evidence in final rehabilitation report that water quality consistently meets the requirements for livestock watering and or other uses consistent with the PMLU.

Domain	Rehabilitation Goal	Rehabilitation Objective	Indicators	Completion Criteria
			Vegetation type and cover to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that vegetation type and groundcover is adequate for the PMLU and appropriate for minimising erosion.
			Density of key plant species to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that key plant species are present and in appropriate densities for the intended PMLU.
			Abundance of declared plants to be report and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that, if present, declared plant species are not sufficient to compromise intended PMLU.
			Soil characteristics to be reported and interpreted by an appropriately qualified person ¹	Certification in the final rehabilitation report that site soil characteristics will support the intended PMLU.

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

2: Elevated final landforms will be rehabilitated to a post mining land use of light grazing native vegetation

3: Land within the 1% AEP flood extent will be rehabilitated to a post mining land use of light grazing native vegetation

END OF ENVIRONMENTAL AUTHORITY