

Permit

Environmental Protection Act 1994

Environmental authority EPML00841513 Commodore Coal Mine

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

Environmental authority number: EPML00841513

Environmental authority takes effect on 25 March 2021

Environmental authority holder(s)

Name(s)	Registered address
Millmerran Investment Company II Pte Ltd	c/- Interger (Australia) Pty Ltd. Level 18, Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
Millmerran Investment Company III Pte Ltd	c/- Interger (Australia) Pty Ltd. Level 18, Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
QUEENSLAND POWER (AUSTRALIA) PTY LTD	Interger (Australia Pty Ltd), Level 26 400 George Street BRISBANE CITY QLD 4000
Millmerran Investment Company IV Pte Ltd	c/- Interger (Australia) Pty Ltd. Level 18, Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
Millmerran Investment Company VI Pte Ltd	c/- Interger (Australia) Pty Ltd. Level 18, Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
Millmerran Investment Company V Pte Ltd	c/- Interger (Australia) Pty Ltd Level 26 400 George Street BRISBANE CITY QLD 4000
Millmerran Investment Company I Pte Ltd	c/- Interger (Australia) Pty Ltd. Level 18, Comalco Place 12 Creek Street BRISBANE CITY QLD 4000
Queensland Power Company Limited	c/- Interger (Australia) Pty Ltd. Level 18, Comalco Place 12 Creek Street BRISBANE CITY QLD 4000

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Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal Ancillary 08 - Chemical Storage 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	ML50151
Ancillary 60 - Waste disposal 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) (d) more than 200,000t	ML50151
Ancillary 62 - Resource recovery and transfer facility operation 1: Operating a facility for receiving and sorting, dismantling, baling or temporarily storing- (d) category 1 regulated waste	ML50151

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:

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- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

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

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

Take effect

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

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

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Sustainable Planning Act 2009* 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.

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Bianca Voges-Haug
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 25 March 2021

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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)

Conditions of Environmental Authority

'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. This environmental authority consists of the following Schedules and Appendices:'

Schedule A	General
Schedule B	Air
Schedule C	Water
Schedule D	Noise and Vibration
Schedule E	Waste
Schedule F	Land
Definitions	
Appendix 1	

Schedule A – General	
Condition number	Condition
A1	<p>Scope of approval</p> <p>This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.</p>
A2	<p>Maintenance and measures</p> <p>The environmental authority holder must:</p> <ul style="list-style-type: none"> (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; (b) maintain such measures, plant and equipment in a proper and efficient condition; (c) operate such measures, plant and equipment in a proper and efficient manner; and (d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A3	<p>Monitoring</p> <p>Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five (5) years.</p>
A4	<p>Upon request from the administering authority, copies of monitoring records and reports must be made available and provided to the administering authority's nominated office within ten (10) business days or an alternative timeframe agreed between the administering authority and the environmental authority holder.</p> <p>Any management or monitoring plans, systems or programs required to be developed and implemented by a condition of this environmental authority, should be reviewed for effectiveness in minimising the likelihood of environmental harm on an annual basis, and amended promptly if required, unless a particular review date and amendment program is specified in the plan, system or program.</p>
A5	<p>Risk Management System</p> <p>The environmental authority holder must develop, implement and maintain a risk management system for mining activities which mirrors the content requirement of the latest version of the <i>Standard for Risk Management (ISO31000)</i>, or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.</p>
A6	<p>Notification of Emergencies, Incidents and Exceptions</p> <p>The environmental authority holder must notify the administering authority by written notification within twenty-four (24) hours, after becoming aware of any emergency or incident which results</p>

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	in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.
A7	<p>Within ten (10) business days following the initial notification of an emergency, incident or exceedance, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:</p> <ul style="list-style-type: none"> (a) results and interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency, incident or exceedance.
A8	<p>Complaints</p> <p>The environmental authority holder must record all environmental complaints received about the mining activities including:</p> <ul style="list-style-type: none"> (a) name, address and contact number for of the complainant; (b) time and date of complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) actions taken to resolve the complaint; (g) any abatement measures implemented; and (h) person responsible for resolving the complaint.
A9	<p>The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.</p>
A10	<p>Emergency Response / Contingency Plan</p> <p>The environmental authority holder must develop, implement and maintain an Emergency Response / Contingency Plan to manage the environmental impacts of uncontrolled release of contaminants to the environment.</p>
A11	<p>The Emergency Response / Contingency Plan must address at least the following matters:</p> <ul style="list-style-type: none"> (a) Response procedures to be implemented to reduce the likelihood of any release of contaminants to the environment;

	<p>(b) Response procedures to prevent any further release or if such is not practicable, minimise the extent and duration of any release to the greatest practicable extent;</p> <p>(c) The practices and procedures to be employed to restore the environment, or if such is not practicable, mitigate any environmental impacts of the release;</p> <p>(d) A description of the resources to be used in response to a release;</p> <p>(e) The training of staff that will be called upon to respond to a release;</p> <p>(f) Procedures to investigate the cause of any release, and where necessary, implement remedial actions to reduce the likelihood of recurrence of a similar event;</p> <p>(g) The provision and availability of documented procedures to staff attending any release to enable them to effectively respond; and</p> <p>(h) Timely and accurate reporting of the circumstance and nature of release events to the administering authority.</p>
A12	A copy of the Emergency Response / Contingency Plan required by condition A14 must be kept at the place to which this environmentally relevant activity relates and be available for examination by Emergency Services Personnel or an authorised person on request.
A13	In carrying out the mining activity authorised by this environmental authority, the holder of this environmental authority must comply with Map 5 .

Schedule B – Air	
Condition number	Condition
B1	<p>Dust Nuisance</p> <p>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 place.</p>
B2	<p>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.</p>
B3	<p>The environmental authority holder must take all reasonable and feasible avoidance and mitigation measures so that the dust and particulate matter emissions generated by mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place:</p> <p>(a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of <i>Australia Standard AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method</i>; and</p> <p>(b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with:</p> <p>(i) Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size selective inlet - Gravimetric method, when monitored in accordance with the most recent version of <i>Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 high volume sampler with size-selective inlet – Gravimetric method</i>; or</p> <p>(ii) - Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 low volume sampler – Gravimetric method.</p>
B4	<p>If monitoring indicates exceedance of the relevant limits in condition B3, then the environmental authority holder must:</p> <p>(a) address the complaint including the use of appropriate dispute resolution if required; or</p> <p>(b) as soon as practicable or at the request of the administering authority, implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.</p>

Schedule C – Water	
Condition number	Condition
C1	<p>Release to Waters</p> <p>Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.</p>
C2	Receiving waters must be monitored at the locations and frequencies defined in Table C1 and Map 1 for the parameters defined in Table C1 .
C3	<p>The environmental authority holder must take all reasonable and practicable measures to collect at least one grab sample at MP1 (as shown in - Figure 1) during each flow event when flow in Back Creek at MP1 is in falling stage or base flow. The grab sample must be analysed for both total suspended solids and turbidity. The following information is to be recorded at the time of sampling –</p> <ul style="list-style-type: none"> (a) ambient weather conditions; (b) time, date and flow rate (L/s); and (c) photo of sampling location showing level of flow in Back Creek. <p>Note: For the purposes of Table C1 and condition C2, grab samples must be taken in a representative manner and if in-stream flow conditions do not permit grab sampling the reason and environmental conditions must be recorded accordingly.</p>
C4	All water storages listed in Table C2 must be monitored in accordance with Table C2 .
C5	Mine affected water must be monitored at the locations and frequencies defined in Table C2 and Map 1 .

Table C1 – Receiving water monitoring points

Monitoring point (MP)	Description	Latitude (GDA 2020)*	Longitude (GDA2020)*	Monitoring frequency	Monitoring parameters
MP1	Back Creek Upstream 1	-27.958308	151.267815	Continuous	pH, Total suspended solids (mg/L), electrical conductivity (μ S/cm) and turbidity (NTU)
MP2	Back Creek Downstream 2	-27.948394	151.274640	As soon as practicable prior to and during a release to Back Creek and at least once after cessation of a release event.	
MP3	Back Creek Downstream 3	-27.929557	151.276656		
MP4	Back Creek Downstream 1	-27.912631	151.269823		
MP5	Back Creek Downstream 4	-27.888736	151.275160		
MP6	Schwarten Gully	-27.908738	151.265621		
MP7	Back Creek Downstream 6	-27.909879	151.909898		

* - GDA 2020 (Lat and Long) Geocentric Datum of Australia 2020 which uses GRS80 (an earth centered ellipsoid) and ITRF2014 @ 1 Jan 2020. The difference in the origin of the ANS and GRS80 ellipsoids is approx 216 m at Commodore Mine. The difference between ITRF1992 and ITRF2014 (International Terrestrial Reference Frame) is approx 1.6 m at Commodore Mine. Latitude and Longitude measured in degrees to 6 decimal places approximately equals 0.111 m.

C6	Water contaminated by mining activities must only be released from the locations and release points defined in Tables C2 and C3 .
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Table C2 – Water storage monitoring

Water storage description	Latitude (GDA2020)	Longitude (GDA2020)	Monitoring Frequency	Monitoring Parameters ¹
Environmental Dam 1	-27.9514199	151.276725	Monthly in storage. Prior to release.	pH, total suspended solids (mg/L), electrical conductivity (μ S/cm) total oil and petroleum hydrocarbons at Environmental Dam 1
Sedimentation Dam 1	-27.9477622	151.267913		
Sedimentation Dam 2	-27.9535661	151.2658277		
Swan Lake	-27.9416116	151.2729409		
Sedimentation Dam 3	-27.9328736	151.274947		
F Pit - F1B Dam	-27.9133821	151.2777204		
J Pit and Creek Pit - Long Dam	-27.9356422	151.279181		
A1 Pit - North Dam	-27.9122066	151.2664516		

¹ Monitoring against receiving environment limits is for interpretation only to ensure adequate management of water storages to prevent environmental harm.

Table C3 – Release point monitoring

Release Point (RP) ¹	Description	Latitude (GDA2020) ²	Longitude (GDA2020) ²	Monitoring Frequency	Monitoring Parameters	Receiving waters
RP1	Environmental Dam 1	-27.9517333	151.2760502	Daily during a release event and upon cessation of release.	pH, total suspended solids (mg/L), electrical conductivity (µS/cm) for all release points and also total oil and petroleum hydrocarbons at RP1	Back Creek
RP2	Sedimentation Dam 1	-27.9491279	151.27412			
RP3	Sedimentation Dam 2	-27.9540426	151.2666223			
RP4	Pit A East Sediment Trap, Swan Lake ³	-27.9437598	151.2713801			
RP5	Pit A North Sediment Trap, Swan Lake ³	-27.9517333	151.2760502			
RP6	Sedimentation Dam 3	-27.9491279	151.27412			
RP7	F1B Dam	-27.9540426	151.2666223			
RP8	Long Dam ³	-27.9437598	151.2713801			
RP9	Long Dam ³	-27.9517333	151.2760502			
RP10	North Dam	-27.9491279	151.27412			

¹ - Location of Release points as per Appendix 1 - Map 1 Locations of surface water quality monitoring stations in Back Creek

² - GDA 2020 (Lat and Long) Geocentric Datum of Australia 2020 which uses GRS80 (an earth centered ellipsoid) and ITRF2014 @ 1 Jan 2020. The difference in the origin of the ANS and GRS80 ellipsoids is approx 216 m at Commodore Mine. The difference between ITRF1992 and ITRF2014(International Terrestrial Reference Frame) is approx 1.6 m at Commodore Mine. Latitude and Longitude measured in degrees to 6 decimal places approximately equals 0.111 m.

³ - Monitoring will cease upon decommissioning of release points due to mining activities. The EA holder must notify the administering authority before release points are decommissioned. The administering authority may approve an amendment by authority to reflect these changes.

C7	Contaminants must not be released from the mine to any waters or the bed and banks of any waters other than treated/settled stormwater from those release points nominated in Table C3 that is in accordance with the end of pipe contaminant release limits in Tables C4 and C5 .
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Table C4 – End of pipe contaminant release limits

Parameter	Units	Minimum	Maximum
pH	pH units	6.0	9.0
Electrical Conductivity	µS/cm	-	1500
Oils and petroleum hydrocarbons	mg/L	-	10

Table C5 – Mine affected water release during flow events - End of pipe release limits for Total suspended solids

Receiving Waters/Stream	Release Points	Gauging Station	Gauging station Latitude (GDA2020) ²	Gauging station Longitude (GDA2020) ²	Receiving water flow recording frequency	Receiving water flow criteria for discharge	Total Suspended Solids Release Limits
Back Creek	RP1	"High Flow" and "Low Flow" visual indicators in Back Creek at MP1	-27.958308	151.267815	Continuous (minimum daily) (m ³ /s)	Low Flow mark – flow must be above mark shown in– Figure 1 as RL421.445 mAHD in Back Creek	240mg/L ¹
	RP2						
	RP3						
	RP4						
	RP5						
	RP6					High Flow mark – flow must be above base of Rising Stage Sampler shown in– Figure 1 RL422.531mAHD in Back Creek	750mg/L
	RP7						
	RP8						
	RP9						
	RP10						

¹ – Limit applies until 1 May 2016 pending the collection and analysis of Total suspended solids levels from grab samples (a minimum of 18 data-points collected over a period of 12 to 24 months) during low-medium flow.

² – GDA 2020 (Lat and Long) Geocentric Datum of Australia 2020 which uses GRS80 (an earth centered ellipsoid) and ITRF2014 @ 1 Jan 2020. The difference in the origin of the ANS and GRS80 ellipsoids is approx 216 m at Commodore Mine. The difference between ITRF1992 and ITRF2014(International Terrestrial Reference Frame) is approx 1.6 m at Commodore Mine. Latitude and Longitude measured in degrees to 6 decimal places approximately equals 0.111 m.

mAHD – meters above Australian Height Datum

C8	Notwithstanding condition C7 the holder of this environmental authority is only authorised to release mine affected water in accordance with Table C5 . The release must occur in such a manner that it does not cause environmental harm to the waters of Back Creek.
C9	During each flow event flow in Back Creek should be determined in m ³ /sec located at Monitoring Point 1 (MP1) using the upstream flow meter.
C10	The low flow mark and high flow mark referred to in Table C5 must be reviewed by 1 May each year to ensure that the dimensions of the flow channel have not changed significantly such that the level of flow at this point in Back Creek had changed. If the flow channel has been subject to change the holder of the environmental authority must ensure the marks are re-surveyed.

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C11	The holder of this environmental authority must take all reasonable and practicable measures to ensure that the location of Rising Stage Sampler (RSS) and upstream flow meter(s) must be free from immediate disturbance such as grazing and stock watering.
C12	<p>The following must be documented when surface water monitoring is conducted in accordance with conditions of this environmental authority:</p> <ul style="list-style-type: none"> (a) Flow rate (m³/sec) upstream of the release; (b) Date and time; (c) Name of person undertaking sampling; (d) Ambient weather conditions including, temperature, rainfall etc; (e) Water temperature; and (f) Turbidity (NTU), Total suspended solids (TSS) mg/L levels must be reported against upstream turbidity levels, time and rainfall for the duration of each release to waters.
C13	The daily quantity of mine affected water released from each release point must be recorded.
C14	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.
C15	<p>The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than twenty-four (24 hours) after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:</p> <ul style="list-style-type: none"> (a) release commencement date and time; (b) details regarding the compliance of the release with the conditions of this environmental authority (that is, contaminant limits, natural flow, discharge volume); (c) release point(s); (d) release rate; (e) release salinity; and (f) receiving water(s) including the natural flow rate.
C16	<p>The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and nominally no later than twenty-four (24) hours after cessation of a release event under condition C15 and within twenty-eight (28) days provide the following information in writing:</p> <ul style="list-style-type: none"> (a) release cessation date and time; (b) natural flow rate in receiving water; (c) volume of water released;

	<p>(d) details regarding the compliance of the release with the conditions of this environmental authority (i.e. contaminant limits, natural flow, discharge volume);</p> <p>(e) all in-situ water quality monitoring results; and</p> <p>(f) any other matters pertinent to the water release event.</p> <p>Note: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions C15 and C16, provided the relevant details of the release are included within the notification provided in accordance with conditions C15 and C16.</p>
C17	<p>Notification of Release Event Exceedance</p> <p>If the release limits defined in Tables C4 and C5 are exceeded, the holder of the environmental authority must notify the administering authority via WaTERS within twenty-four (24) hours of receiving the results.</p>
C18	<p>The environmental authority holder must, within twenty-eight (28) days of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority via WaTERS detailing:</p> <p>(a) the reason for the release;</p> <p>(b) the location of the release;</p> <p>(c) the total volume of the release and which (if any) part of this volume was non-compliant;</p> <p>(d) the total duration of the release and which (if any) part of this period was non-compliant;</p> <p>(e) all water quality monitoring results (including all laboratory analyses);</p> <p>(f) identification of any environmental harm as a result of the non-compliance;</p> <p>(g) all calculations; and</p> <p>(h) any other matters pertinent to the water release event.</p>
C19	<p>Receiving Environment Monitoring Program (REMP)</p> <p>The environmental authority holder must develop and implement a REMP to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.</p>

C20	<p>The REMP must include (in reference to Table C4 (release criteria)):</p> <ul style="list-style-type: none"> (a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); (b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; (c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table C1); (d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the Queensland Water Quality Guidelines 2006. This should include monitoring during periods of natural flow irrespective of mine or other discharges; (e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table C4; (f) include, where appropriate, monitoring of metals and metalloids in sediments (in accordance with ANZECC and ARM CANZ 2000; Batley and/or most recent version of AS5667.1: Guidance on Sampling Bottom Sediments); (g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas method; (h) apply procedures and/or guidelines from ANZECC and AMRCANZ 2000 and other relevant guideline documents; (i) describe sampling and analysis methods and quality assurance and control; and (j) incorporate stream flow and hydrological information in the interpretations of water quality.
C21	<p>Water Management Plan</p> <p>A Water Management Plan must be developed by an appropriately qualified person and implemented by an appropriately qualified person for all stages of the authorised mining activities.</p> <p>The water management plan must be submitted to the administering authority for review and within twelve (12) months of the diversion of Back Creek and installation of the levee.</p>
C22	<p>The Water Management Plan required by condition C21 must:</p> <ul style="list-style-type: none"> (a) provide for effective management of actual and potential environmental impacts resulting from water management associated with the mining activity carried out under the environmental authority; (b) a study for the source of contaminants; (c) a water balance model for the site; (d) a water management system for the site;

	<p>(e) Erosion and sediment control measures to be implemented;</p> <p>(f) measure to management and prevent saline drainage;</p> <p>(g) measures to manage and prevent acid and metalliferous drainage;</p> <p>(h) contingency procedures for emergency events; and,</p> <p>(i) a program for monitoring and review of the effectiveness of the water management plan.</p>
C23	A record of and an analysis of the results of the surface water monitoring conducted in accordance with the Water Management Plan, including background water quality monitoring must be kept and forwarded to the administering authority on request.
C24	<p>Sediment and erosion control</p> <p>All reasonable and practicable erosion and sediment control measures must be provided and maintained to effectively minimise any likelihood of erosion and release of sediments from the mine (e.g. diversion banks, sediment collection dams and progressive revegetation of disturbed areas). The erosion and sediment control measures must be maintained during mining operations, decommissioning and post mining.</p>
C25	An Erosion and Sediment Control Plan must be developed by an appropriately qualified person 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 stormwater.
C26	<p>Temporary interference with waterways</p> <p>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 Department of Natural Resources and Mines (or its successor) <i>Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities</i>.</p>
C27	<p>Groundwater</p> <p>Groundwater affected by the mining activities must be monitored for standing water levels and flow rates (if applicable) prior to sampling for water quality parameters at the locations and frequencies defined in Table C6 and Map 3 and for the parameters defined in Table C7 for bores marked *.</p> <p>GW7, GW12, GW13, and GW14 shall be monitored until made in-operable by mining activities.</p>

Table C6 – Groundwater monitoring locations and frequency

Monitoring point	Latitude (GDA2020)**	Longitude (GDA2020)**	Aquifer	Location	Monitoring frequency
CMW101*	-27.916689	151.314275	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels and quality
CMW102*	-27.938703	151.313700	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels and quality
CMW103A	-27.928500	151.33345	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels
CMW103B	-27.927600	151.333583	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels
CMW104*	-27.916878	151.263542	Marburg Sandstone	Down gradient	Quarterly - Standing water levels
CMW105A	-27.922056	151.320825	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels
CMW105B	-27.922506	151.320758	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels
GW7*	-27.929039	151.284517	Commodore Coal Seam	Up-gradient	Quarterly - Standing water levels and quality
GW10	-27.923908	151.247772	Commodore Coal Seam	Down gradient	Quarterly - Standing water levels
GW11*	-27.923936	151.247792	Marburg Sandstone	Down gradient	Quarterly - Standing water levels
GW12*	-27.923472	151.271778	Marburg Sandstone	Down gradient	Quarterly - Standing water levels
GW13*	-27.923436	151.271819	Commodore Coal Seam	Down gradient	Quarterly - Standing water levels and quality
GW14*	-27.923392	151.271811	Back Creek Alluvium	Down gradient	Quarterly - Standing water levels
GW16*	-27.932776	151.279441	Commodore Coal Seam	Downstream	Quarterly - Standing water levels and quality
GW17*	-27.871700	151.314867	Marburg Sandstone	Down gradient	Quarterly - Standing water levels and quality
GW18*	-27.871683	151.314983	Walloon Coal Measure	Down gradient	Quarterly - Standing water levels and quality
GW19*	-27.905983	151.349883	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels and quality
GW20*	-27.906000	151.349717	Walloon Coal Measure	Down gradient	Quarterly - Standing water levels and quality
GW21	-27.888633	151.380800	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels
GW22	-27.957217	151.340200	Marburg Sandstone	Up-gradient	Quarterly - Standing water levels
GW23*	-27.907840	151.245878	Commodore Coal Seam	Up gradient	Quarterly - Standing water levels and quality
GW24	-27.962478	151.284933	Marburg Sandstone	Up gradient	Quarterly - Standing water levels and quality
GW25	-27.962476	151.285046	Walloon Coal Measure	Up gradient	Quarterly - Standing water levels and quality
GW26*	-27.912853	151.271025	Back Creek Alluvium	Down gradient	Quarterly - Standing water levels and quality
GW27	-27.918363	151.234850	Commodore Coal Seam	Up gradient	Quarterly - Standing water levels
GW28	-27.944008	151.227720	Commodore Coal Seam	Up gradient	Quarterly - Standing water levels
GW29*	-27.918271	151.234779	Walloon Coal Measures	Down gradient	Quarterly - Standing water levels and quality
GW30*	-27.951207	151.275468	Back Creek Alluvium	Down gradient	Quarterly - Standing water levels and quality

* See below in Table C7.

Environmental authority EPML00841513 Commodore Coal Mine

** GDA 2020 (Lat and Long) Geocentric Datum of Australia 2020 which uses GRS80 (an earth centered ellipsoid) and ITRF2014 @ 1 Jan 2020. The difference in the origin of the ANS and GRS80 ellipsoids is approx 216 m at Commodore Mine. The difference between ITRF1992 and ITRF2014 (International Terrestrial Reference Frame) is approx 1.6 m at Commodore Mine. Latitude and Longitude measured in degrees to 6 decimal places approximately equals 0.111 m.

C28	<p>If the groundwater contaminant trigger levels defined in Table C7 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority via WaTERS within three (3) months of receiving the analysis results.</p> <p>For condition C28, an exceedance is when a limit for any quality characteristic specified in Table C7 for bores in Table C6 marked with an * is exceeded by Limit A: five consecutive exceedances and Limit B: three consecutive exceedances.</p>
C29	<p>For those groundwater bores marked with an * in Table C6, groundwater levels must be monitored and groundwater draw down fluctuations in excess of 2m per year, not resulting from the pumping of licensed bores, must be notified within fourteen (14) days to the administering authority via WaTERS following completion of monitoring.</p>
C30	<p>The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Department of Environment and Science <i>Water Quality Sampling Manual</i>.</p>

Table C7 – Groundwater contaminant trigger levels for bores in Table C5 marked *

Analyte	pH ¹		EC ¹		Boron (dissolved) ²	Cadmium (dissolved) ¹		Molybdenum (dissolved) ²	Iron (dissolved) ¹		Nitrate as N ²	Selenium (dissolved) ²		Sulphate (dissolved) ¹		Total Cyanide ¹		Major Ions
Unit	pH scale		µS/cm		mg/L	mg/L		mg/L	mg/L		mg/L	mg/L		mg/L		mg/L		
Limit ³	Limit A	Limit B	Limit A	Limit B	Limit B	Limit A	Limit B	Limit B	Limit A	Limit B	Limit B	Limit A	Limit B	Limit A	Limit B	Limit A	Limit B	
GW14	7.2 - 8.6	6.9 - 8.8	1384	1542	0.94	0.0030	0.0043	0.034	0.69	1.31	2.4	NA	0.005	21.1	24.6	0.0025	0.0025	For interpretation purposes only
GW7 ⁵	6.7 - 7.4	6.5 - 7.5	17140	17252	0.94	0.0178	0.0267	0.034	0.47	0.87	2.4	0.009 ¹	0.038 ¹	181.8	186.9	0.0025	0.0025	
GW8	6.9 - 7.5	6.8 - 7.8	3920	3962	0.94	0.0068	0.0110	0.034	1.92	3.08	2.4	0.005 ¹	0.008 ¹	123.4	125.8	0.0025	0.0025	
GW13	7.4 - 8.3	7.3 - 8.4	1142	1173	0.94	0.0074	0.0082	0.034	0.36	0.66	2.4	NA	0.005	0.5	1.5	0.0025	0.0041	
GW15	6.8 - 7.6	6.6 - 7.9	7252	7266	0.94	0.0046	0.0057	0.034	4.30	5.88	2.4	NA	0.005	208.0	214.2	0.0025	0.0025	
GW16 ⁵	6.9 - 7.5	6.8 - 7.8	3920	3962	0.94	0.0068	0.0110	0.034	1.92	3.08	2.4	0.005 ¹	0.008 ¹	123.4	125.8	0.0025	0.0025	
GW17	7.8 - 9.1	7.3 - 9.3	3020	3654	0.94	0.0005	0.0011	0.034	0.72	3.36	2.4	NA	0.005	0.5	9.2	0.0020	0.0040	
GW18	7.1 - 7.3	6.9 - 7.7	5360	5680	0.94	0.0007	0.0026	0.034	10.27	28.52	2.4	NA	0.005	18.0	19.9	0.0025	0.0060	
GW20 ⁵	6.8 - 7.6	6.6 - 7.9	7252	7266	0.94	0.0046	0.0057	0.034	4.30	5.88	2.4	NA	0.005	208.0	214.2	0.0025	0.0025	
CMW104 ⁵	7.1 - 7.4	7.0 - 7.6	5068	5092	0.94	0.0044	0.0064	0.034	0.07	0.22	2.4	NA	0.005	95.8	99.7	0.0025	0.0031	
GW11	7.1 - 7.4	7.0 - 7.6	5068	5092	0.94	0.0044	0.0064	0.034	0.07	0.22	2.4	NA	0.005	95.8	99.7	0.0025	0.0031	
GW12	7.4 - 7.7	7.3 - 7.9	341	348	0.94	0.0046	0.0055	0.034	0.04	0.20	2.4	NA	0.005	2.8	3.5	0.0023	0.0025	

¹ Site specific derived trigger.

² Aquatic Ecosystem Protection criteria unless specified

³ Limit A: Five Consecutive exceedances. Limit B: Three consecutive exceedances

⁴ NA = Not applicable; Aquatic Ecosystem Protection criteria applied as Limit B only.

⁵ Interim values pending additional data collection.

C31	<p>Back Creek Diversion Monitoring Program</p> <p>Within twelve (12) months of receiving approval from DNRM&W for the Back Creek low flow channel the environmental authority holder must develop a program to monitor the diversion of Back Creek. The draft monitoring program must be consistent with the DNRM&W licence and be submitted to the administering authority for comment at least six (6) weeks prior to commencement of the program. The holder of this environmental authority must have due regard for the comments of the administering authority in finalising the details of the monitoring program. The Back Creek Diversion Monitoring Program must satisfy the following:</p> <ul style="list-style-type: none"> (a) Developed and carried out by a person possessing appropriate qualifications and experience in aquatic ecological and water quality monitoring, and to be able to competently make recommendations about these matters; (b) Establish and document monitoring points at locations that are consistent with the conditions of the license issued by DNRM&W for the low flow channel and are suitable for the monitoring program reviewed by the administering authority. (c) Monitoring in accordance with the accepted Monitoring Program must commence at least five years prior to Back Creek being diverted; (d) In addition to regular condition and trend surveillance monitoring, the monitoring program results should also enable assessment of the establishment of the aquatic and riparian zones in the diverted section of Back Creek; (e) After Back Creek has been diverted and in the event that monitoring results indicate a significant decline in the pre-determined values or ecological condition of Back Creek, or indicates any other significant ecological impact, the monitoring program must include provisions for action to address the actual or potential harm to Back Creek and downstream reaches.
C32	<p>Regulated Structures (dams and levees)</p> <p>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:</p> <ul style="list-style-type: none"> (a) prior to the design and construction of the structure; or (b) prior to any change in its purpose or the nature of its stored contents.
C33	<p>The 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.</p>
C34	<p>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).</p>
C35	<p>Assessing Design and Construction of a Regulated Structure</p> <p>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></p>

	(ESR/2016/1933).
C36	<p>Construction of a regulated structure is prohibited unless:</p> <p>(a) the holder has submitted a consequence category assessment report and certification to the administering authority; and</p> <p>(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.</p>
C37	<p>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.</p>
C38	<p>Regulated structures must:</p> <p>(a) be designed and constructed in compliance with the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933);</p> <p>(b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of:</p> <p>(i) floodwaters from entering the regulated dam from any watercourse or drainage line; and</p> <p>(ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.</p> <p>(iii) for regulated dams that are dams associated with a failure to contain – seepage: 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.</p>
C39	<p>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:</p> <p>a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; and</p> <p>b) construction of the regulated structure is in accordance with the design plan.</p>
C40	<p>Notification of Affected Persons</p> <p>All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure</p> <p>(a) for existing structures that are regulated structures, within ten (10) business days of this condition taking effect;</p> <p>(b) prior to the operation of the new regulated structure; and</p>

	(c) if the emergency action plan is amended, within five (5) business days of it being amended.
C41	<p>Operation of a Regulated Structure</p> <p>Operation of a regulated structure is prohibited unless the holder has submitted to the administering authority:</p> <ul style="list-style-type: none"> (a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition C34; (b) a set of 'as constructed' drawings and specifications; (c) certification of those 'as constructed drawings and specifications' in accordance with condition C39; (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) written confirmation that the requirements of this authority relating to the construction of the regulated structure have been met; (f) written confirmation that the holder has entered the details required under this authority, into a Register of Regulated Dams; and (g) there is a current operational plan for the regulated structures.
C42	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.
C43	<p>Mandatory Reporting Level</p> <p>Conditions C44 to C47 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.</p>
C44	The Mandatory Reporting Level (MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
C45	The holder of this environmental authority must, as soon as practicable and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
C46	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
C47	The holder must record any changes to the MRL in the Register of Regulated Structures.
C48	<p>Design Storage Allowance</p> <p>The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each</p>

	year.
C49	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).
C50	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
C51	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year , act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
C52	Annual Inspection Report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
C53	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.
C54	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).
C55	The holder 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, provide this to the administering authority within ten (10) business days of receipt of the request.
C56	Transfer Arrangements The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.

C57	<p>Decommissioning and Rehabilitation</p> <p>Regulated structures must not be abandoned but be either:</p> <p>(a) decommissioned and rehabilitated to achieve compliance with condition C58; or</p> <p>(b) be left in-situ for a use by the landholder provided that:</p> <p style="padding-left: 40px;">(i) it no longer contains contaminants that will migrate into the environment; and</p> <p style="padding-left: 40px;">(ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and</p> <p>(c) the holder of the environmental authority and the landholder agree in writing that the;</p> <p style="padding-left: 40px;">(i) dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and</p> <p style="padding-left: 40px;">(ii) landholder is responsible for the dam, on and from an agreed date.</p>
C58	<p>Register of Regulated Structures</p> <p>A Register of Regulated Structures must be established and maintained by the holder for each regulated dam.</p>
C59	<p>The holder of this environmental authority must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.</p>
C60	<p>The holder of this environmental authority must make a final entry of the required information in the Register of Regulated Dams once compliance with condition C41 has been achieved.</p>
C61	<p>The holder of this environmental authority must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.</p>
C62	<p>All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.</p>
C63	<p>The holder of this 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 Dams, in the electronic format required by the administering authority.</p>
C64	<p>Transitional Arrangements</p> <p>All existing structures that have not been assessed in accordance with either the Manual or the former <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> must be assessed and certified in accordance with the Manual within six (6) months of amendment of the authority adopting this schedule.</p>
C65	<p>All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table C8, depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.</p>

C66	<p>Table C8 ceases to apply for a structure once any of the following events has occurred:</p> <p>(a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or</p> <p>(b) it has been decommissioned; or</p> <p>(c) it has been certified as no longer being assessed as a regulated structure.</p>
C67	<p>Certification of the transitional assessment required by conditions C64 and C65 (as applicable) must be provided to the administering authority within six (6) months of amendment of the authority adopting this schedule.</p>

Table C8 – Transitional hydraulic performance requirements for existing structures

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams</i>			
Compliance with criteria	High consequence	Significant consequence	Low consequence
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years .
>70%-≤90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years .
>50-≤70%	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years .
≤50%	Within 5 years or as per compliance requirements (e.g. TEP timing).	Within 5 years or as per compliance requirements (e.g. TEP timing).	Review consequence assessment every 5 years .
Regulated levee designed to prevent the ingress of clean flood water <100% compliant*	Within 5 years unless otherwise agreed with the administering authority.		

* Levees designed for the diversion of contaminated waters or protection of the structural integrity of a dam are not to be considered as part of this provision. These levees are considered a key design element of the relevant dam and transitional periods should as such align to that relevant compliance criteria and consequence category.

C68	<p>Recycled Water</p> <p>The use of recycled water on the mine will be in accordance with the '<i>The Australian Guidelines for Water Recycling: Managing Health and Environmental Risks</i>' (Phase 1) (2006), any guidelines that supersede it, or relevant guidelines to the activity and use. Where the recycled water is to be used for irrigation refer to '<i>Disposal of effluent using irrigation, Technical Guideline</i>' by Environment and Science, Queensland Government (2020).</p>
C69	<p>A Recycled Water Risk Management Plan is to be prepared and approved by the administering authority prior to using recycled water on site. Environmental Values are to be addressed for each site-specific use of the recycled water in line with the Technical Guidelines for the requirements of activities with impacts to Environmental Values.</p>

Schedule D – Noise and Vibration	
Condition number	Condition
D1	<p>Subject to conditions D2 and D3 noise from mining activities must not cause an environmental nuisance at any sensitive place or commercial place.</p>
D2	<p>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 place or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.</p>
D3	<p>If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D1 are not being exceeded, then the holder is not in breach of condition D1. Monitoring and analysis must provide:</p> <p>(a) Determination of $L_{Ar, 1hr}$ for noise from mining activities at the sensitive place or commercial place by:</p> <ul style="list-style-type: none"> (i) Manned monitoring at a noise sensitive place or commercial place by a suitably qualified person and all noises noted in a log; and (ii) Simultaneously with (i), measuring noise from activities at ML50151 at a site between ML50151 and a sensitive or commercial place considered appropriate by the administering authority to determine the 'signature' of noise from activities on ML50151; (iii) Narrow band analysis of (i) and (ii) to identify the noise 'signature' of the power station and other noise sources; and (iv) Removal of the identified noise 'signature' of the power station and other noises identified by (i) and (ii) as not emanating from ML50151 from the noise level measured at the sensitive place or commercial place.

	<p>(b) The level and frequency of occurrence of impulsive or tonal noise;</p> <p>(c) Atmospheric conditions including temperature, wind speed and direction; and</p> <p>(d) Location, date and time of recording.</p>
D4	<p>If monitoring indicates exceedance of the limits in Table D1 due to the contribution from ML50151, then the environmental authority holder must:</p> <p>a) resolve the complaint with the use of appropriate dispute resolution techniques to the satisfaction of the administering authority; or</p> <p>b) Implement noise abatement measures so that emissions of noise from the activity do not result in exceedance of the limits in Table D1.</p>
D5	<p>The method of measurement and reporting of noise levels must comply with the latest edition of the Department of Environment and Science's <i>Noise Measurement Manual</i>.</p>

Table D1 – Noise limits for ML50151

Sensitive place						
Noise level dB (A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	7am - 6pm	6pm - 10pm	10pm - 7am
$L_{Ar,1hr}$	45	40	35	40	40	35
Commercial place						
Noise level dB (A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	7am - 6pm	6pm - 10pm	10pm - 7am
$L_{Ar,1hr}$	50	45	40	50	45	40

Note: The method of measurement and reporting of noise levels must comply with the latest editions of the Department of Environment and Science Noise Measurement Manual.

Table D2 – Airblast overpressure level - 'Sensitive place or Commercial place'

Noise parameter	Monday to Friday 9am - 4pm Saturday 9am - 3pm	Sundays and public holidays
Air blast overpressure level (dB linear peak)	115dB (80th percentile)	No blasting permitted
Air blast overpressure level (dB linear peak)	120dB (maximum)	

D6	<p>Vibration Nuisance</p> <p>Subject to conditions D7 and D8 vibration from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.</p>
D7	<p>When requested by the administering authority, vibration 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.</p>

D8	Blasting must be undertaken in accordance with Table D3 .
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Table D3 – Vibration limits - 'Sensitive place or Commercial place'

Vibration parameter	Monday to Friday 9am - 4pm Saturday 9am – 3 pm	Sundays and public holidays
Houses and low rise residential buildings and commercial buildings not included below	10mm/s peak particle velocity	No blasting permitted
Commercial and industrial buildings or structures of reinforced concrete or steel construction	25mm/s peak particle velocity	

D9	<p>If the environmental authority holder can provide evidence through monitoring that the limits defined in Table D2 and Table D3 are not being exceeded then the holder is not in breach of condition D6. Monitoring must include:</p> <ul style="list-style-type: none"> a) Location of the blast/s within the mining area (including which bench level); b) Atmospheric conditions including temperature, % cloud cover, relative humidity and wind speed and direction; c) Location, date and time of recording; d) Airblast overpressure levels dB (linear) peaks; and e) Peak particle velocity (mm/s).
D10	<p>If monitoring indicates exceedance of the relevant limits in Table D2 or Table D3, then the environmental authority holder must:</p> <ul style="list-style-type: none"> a) address the complaint including the use of appropriate dispute resolution if required; or b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.

Schedule E – Waste	
Condition number	Condition
E1	A Waste Management Plan must be developed, implemented and reviewed, by a suitably qualified person(s), for all stages of mining activities and provided to the administering authority for review and comment by 31 May 2020 , and at intervals not exceeding three (3) years thereafter.
E2	<p>The Waste Management Plan required by condition E1 must include:</p> <ul style="list-style-type: none"> a) a description of the mining activities that may generate waste; b) waste management control strategies such as: <ul style="list-style-type: none"> i. the types and amounts of wastes generated by the mining activities. ii. segregation of the wastes. iii. storage of the wastes. iv. disposal of the wastes. v. transport of the wastes. vi. monitoring and reporting matters concerning the wastes. c) the hazardous characteristics of the wastes generated including disposal for hazardous wastes; d) a program for reusing, recycling or disposing of all wastes; e) how the waste will be dealt with in accordance with the waste management hierarchy, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices in the waste management hierarchy (that is, avoidance, reuse, recycling, energy recovery and disposal); f) procedures for identifying and implementing opportunities to minimise the amount of waste generated, promote efficiency in the use of resources and improve the waste management practices employed; g) procedures for dealing with accidents, spills and other incidents; h) details of any accredited management system employed, or planned to be employed, to deal with waste; i) how often the performance of the waste management plan will be assessed; j) the indicators or other criteria on which the performance of the waste management plan will be assessed; and k) staff training and induction to the waste management plan.
E3	Within twenty (20) business days of receiving comments from the administering authority as per condition E1 , the Waste Management Plan must be updated to address the comments, amended to adopt any recommendations and submitted to the administering authority.

E4	Mine waste must be managed in accordance with the Waste Management Plan required by condition E1 .
E5	<p>Monitoring of lysimeters/piezometers</p> <p>The following lysimeter or piezometer must be installed within the buried ash. A minimum of four lysimeters or piezometers must be installed at separate locations where ash is buried in-pit. The first in-pit lysimeter or piezometer will be installed during mining years 0 – 7, the second in-pit lysimeter or piezometer will be installed during mining years 7 – 14, the third in-pit lysimeter or piezometer will be installed during mining years 14 – 21, and the fourth in-pit lysimeter or piezometer will be installed during mining years 21 – 30.</p>
E6	Should water be identified in the monitoring bores, where the presence is not attributed to bore failure, monitoring should be undertaken in order to monitor leachate on, at least, six monthly intervals. Monitoring shall include basic water content and the water quality parameters of Boron, Molybdenum and Selenium (as mg/L).
E7	<p>Coal Combustion Products Storage and Management</p> <p>The holder of this environmental authority may store coal combustion products generated by the burning of coal at the Millmerran Power Station in voids defined in Table E1 and Map 5.</p>
E8	Coal combustion products stored in voids defined in Table E1 and Map 5 must comply with contaminant limits defined in Table E2 .
E9	In addition to meeting the criteria in Table E2 , the coal combustion products must not have any properties or contain any other contaminants at concentrations which may cause environmental harm.

Table E1 – Authorised coal combustion product storage locations

Void identification	Location
All mine voids	Refer to Map 5 – Authorised Disturbance Area

Table E2 – Maximum Allowable Leaching Contaminant (TCLP) Levels.

Contaminant	Maximum TCLP Value (mg/L)
Silver	0.5
Arsenic	0.5
Barium	10
Cadmium	0.05
Chromium	0.5
Copper	10
Nickel	0.5
Lead	0.5
Antimony	0.5
Thallium	0.1
Zinc	50
Selenium	0.1
Mercury	0.01

E10	<p>Ash transfer</p> <p>Ash deposited and stored in a void identified in Table E1 and Map 5, must be conditioned to approximately 20 per cent moisture content prior to being transferred from the power station site to the Commodore Coal Mine in order to minimise the release of dust emissions.</p>
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Schedule F – Land	
Condition number	Condition
F1	<p>Contaminant release</p> <p>Contaminants must not be released to land, except as permitted under the conditions of this environmental authority.</p>
F2	<p>Rehabilitation Landform Criteria</p> <p>All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with self-sustaining vegetation cover in accordance with the final land description as defined in Table F1.</p>

Table F1 – Final land use and rehabilitation approval schedule

Disturbance type	Disturbance area (ha)	Pre-mine land description	Post-mine land description	Pre-mine land classification	Post-mine land classification
Residual Void	40	Predominately grazing with some cultivation	Possible water storage	II-IV	VIII
Re-Contoured spoil area	1179	Predominately grazing with some cultivation, as well as Back Creek system and local roads	Grazing with wildlife corridors	II-IV VIII (Creek and roads)	IV (in pit) IV-VII (out of pit)
Sediment dams	11	Predominately grazing with some cultivation	Water Storage	II-IV	VIII
Creek diversion	171	Predominately grazing with some cultivation and local roads	Creek and floodplain	II-IV	IV-VIII
Infrastructure	19	Predominately grazing with some cultivation	Infrastructure	II-IV	VIII
Regulated Structures	All areas described during operations	Predominately grazing with some cultivation, as well as Back Creek system and local roads	Grazing with wildlife corridors or Possible Water Storage	II-IV	VIII
Total disturbed area	1420				

F3	Progressive rehabilitation must commence when areas become available within the operational land.
F4	The holder of this environmental authority must prevent the spread of Declared Plants by developing a weed control program and by ensuring that all vehicles and machinery are adequately cleaned before taking the vehicles and machinery out of a Declared Plant Area. The weed control program must list all identified weeds and weed control methods.
F5	Within three (3) years of the approval of this environmental authority, the environmental authority holder must complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority in accordance with conditions F1, F2 and F3 and propose acceptance criteria to meet the outcomes and landform design criteria in Table F1 and F2 .
F6	The report submitted to the administering authority in accordance with condition F5 must include the following; <ul style="list-style-type: none"> a) A detailed description of analogue sites that contain a representative species combination and vegetation cover to achieve the rehabilitation outcomes defined in Table F1 and F2; b) Methods for encouraging native fauna into rehabilitated areas (e.g. establishment of wildlife corridors etc); and c) A measure of productivity for agricultural land uses (e.g. sustainable dry matter production, stock live weight gain).

Table F2 – Landform design

Parameter	Slope Range (degrees)	Projective Surface Area (ha)
Residual Voids	25-63	40
Waste Rock Dump(s)	0-10 (out of pit) 0-5 (in pit)	1182
ROM area(s)	<60	14

F7	Within two years of the approval of this environmental authority a topsoil management plan must be submitted to the administering authority and must include the following: <ul style="list-style-type: none"> a) stripping of topsoil prior to any disturbance to the depths nominated in the EM Plan b) placement of topsoil directly onto rehabilitated areas wherever possible c) the deep ripping and seeding of stockpiles to ensure that stockpiles are maintained free from erosion and do not become sterile, and d) the placement of topsoil to a minimum depth of 250 mm on rehabilitated areas, capable of sustaining the final land use outcome for the relevant disturbance type nominated in Table F1.
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F8	<p>Residual Void Outcome</p> <p>Residual voids must comply with the following outcomes;</p> <p>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</p> <p>b) residual voids must comply with Table F3.</p>
F9	<p>Five (5) years prior to a final void being constructed, the environmental authority holder must complete an investigation into residual voids and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in condition F8 and landform design criteria in Table F3.</p>

Table F3 – Final void design

Void identification	Void wall - competent rock slop	Void wall - incompetent rock slope	Void maximum surface area (ha)
Southern end of the East pit see Map 4	63° batters on the east and south final high wall. The remaining batters in the final void will be reduced to an overall slop of 25°.	45°	40 hectares The void will have a volume of approximately 8 million cubic meters.

F10	<p>Infrastructure</p> <p>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.</p>
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Definitions

Key terms and/or phrases bolded in this environmental authority 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.

Word definitions

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

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

"affected person" is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life 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 air blast overpressure measured in decibels linear (dB).

"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 relating to the subject matter using the relevant protocols, standards, methods or literature.

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

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

"blasting" means the use of explosive materials to fracture-

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

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

"blasting" means the use of explosive materials to fracture:

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

"Certification" 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'.

"coal combustion products" means fly ash and furnace bottom ash produced from the combustion of coal at the power station sites.

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

"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/2016/1933).

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

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

"declared plant area" Areas designated by the Department of Natural Resources or Local Government as areas infested with plants declared under section 69 of the *Rural Lands Protection Act 1985* (section 70 (3) lists the categories of declared plants).

"declared plant" - A plant that has been declared under the *Rural Lands Protection Act 1985*.

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

"Design storage allowance or DSA" means an available volume, estimated in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.

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

"disturbance" of land includes:

- (a) compacting, removing, covering, exposing or stockpiling of earth
 - (b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion
 - (c) carrying out mining within a watercourse, waterway, wetland or lake
 - (d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls
 - (e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased
 - (f) releasing of contaminants into the soil or underlying geological strata.
- b) However, the following areas are not included when calculating areas of 'disturbance':
- (a) areas off lease (e.g. roads or tracks which provide access to the mining lease)
 - (b) areas previously disturbed which have achieved the rehabilitation outcomes
 - (c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)
 - (d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner
 - (e) disturbance that pre-existed the grant of the tenure.

"Emergency action plan" means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure and ensure timely warning to affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.

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

"Existing structure" means a structure that prior to <<insert date when EA is issued with new dam manual conditions>> meets any or both of the following, a structure:

(a) with a design that is in accordance with the <date and version> Manual for Assessing Consequence Categories and Hydraulic Performance of Structures and that is considerably in progress;

(b) that is under considerable construction or that is constructed.

"fly ash" means solid material extracted from the flue gasses of the boilers at the power station sites which are fired with pulverised coal, consisting essentially of the oxides of silicon, aluminium, iron and some calcium of which particle sizes range from less than 1µm (micrometre) to 200µm and are irregular to spherical in shape.

"furnace bottom ash" means the agglomerated particles formed at the bottom of the furnaces at the power station sites. Bottom ash is typically grey to black in colour, is quite angular, and has a porous surface structure.

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

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

" $L_{Ar 1 hr}$ " means the specific noise level measured as the A-weighted equivalent continuous noise level plus any adjustment for the character of the noise (tonal and/or impulsive) determined over a reference time interval of one hour.

"land" in the 'land schedule' of this document means land excluding waters and the atmosphere.

"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/2016/1933).

“Mandatory reporting level or MRL” means a warning and reporting level determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority.

“Maximum Allowable Leaching Contaminant (TCLP)” means the test described in the document SW-846 Test Methods for Evaluation of Solid Wastes Physical/Chemical Methods published by the United States Environmental Protection Agency, Revision 5, April 1998 or updated version thereof (e.g. published on www.epa.gov/epaoswer/hazwaste/tesUmain.htm).

“mine affected water”:

a) means the following types of water:

- i) pit water, tailings dam water, processing plant water;
- ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the Environmental Protection Regulation 2008 if it had not formed part of the mining activity;
- iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
- iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
- v) groundwater from the mine’s dewatering activities;
- vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.

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

- i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
- ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
 - a. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
 - b. evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
- iii) both.

“mine waste material” includes, but is not limited to:

- Tailings;

- Coal Combustion Products;
- Coal Rejects; and
- Waste Rock.

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

“**Modification or modifying**” (see definition of ‘construction’)

“**NATA**” is the National Association of Testing Authorities.

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

“**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 (mm/s).

“**power station sites**” means Millmerran Power Station, Moffatt Reserve Rocky Creek Road, Grays Gate QLD 4357.

“**protected area**” means

- a protected area under the *Nature Conservation Act 1992*; or
- a marine park under the *Marine Parks Act 1992*; or
- 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**” in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

- (a) a watercourse
- (b) groundwater

“**receiving waters**” means the waters into which this environmental authority authorises releases of mine affected water.

“**Register of Regulated Structures**” includes:

- (a) Date of entry in the register;
- (b) Name of the structure, its purpose and intended/actual contents;
- (c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933);
- (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) For the regulated dam, 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/2016/1933) 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 deals with strength and structural integrity of that tank or container;

(b) a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;

(c) a flare pit.

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

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

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

"revegetation" is the re-establishment of vegetation¹ of a species and density of cover similar to surrounding undisturbed areas or the landform that existed before mining activities on soil surfaces associated with the construction or rehabilitation of a watercourse diversion.

"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.

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

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

For example, a township (occupied by the mine employees, contractors and their families for multiple mines that are held by different companies) would be a sensitive place, even if part or all of the township is constructed on land owned by one or more of the companies.

"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) 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.

"the Act" means the Environmental Protection Act 1994.

"µS/cm" means micro siemens per centimetre.

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

- (a) a river, creek or stream in which water flows permanently or intermittently—
 - (i) in a natural channel, whether artificially improved or not; or
 - (ii) in an artificial channel that has changed the course of the watercourse.

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

"Waters" includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or

tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

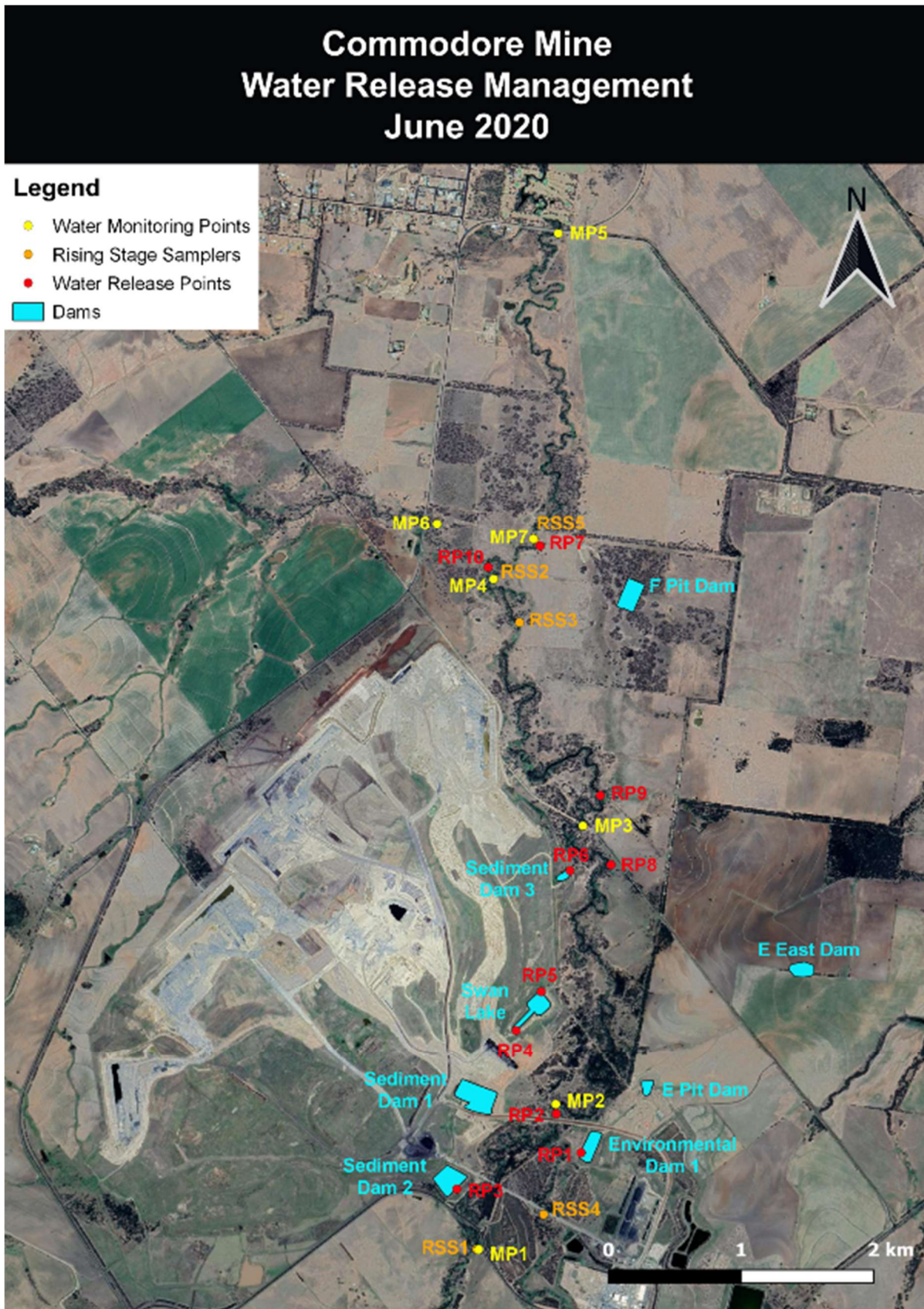
“**WaTERS**” means the Water Tracking and Electronic Reporting System.

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

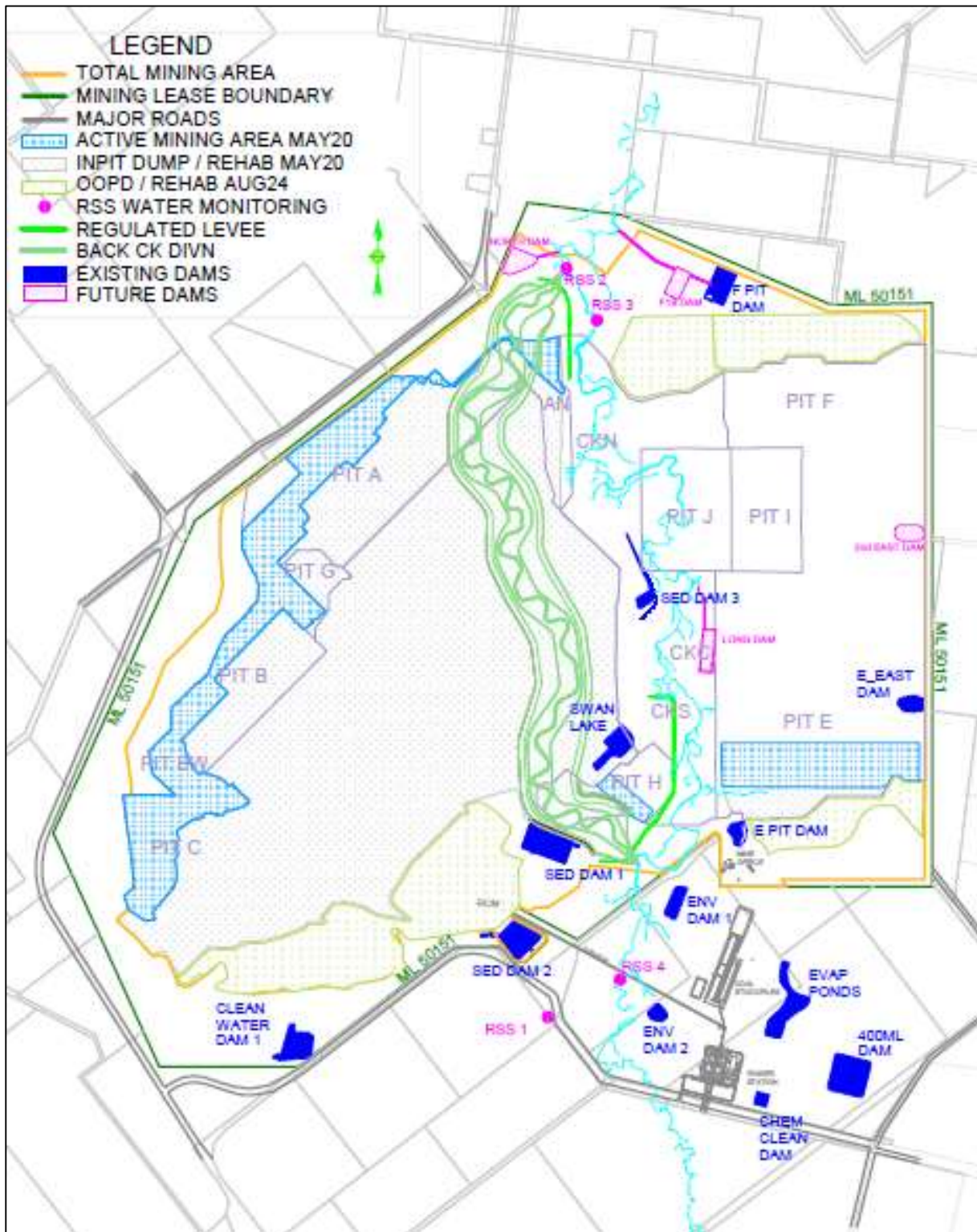
Appendix 1



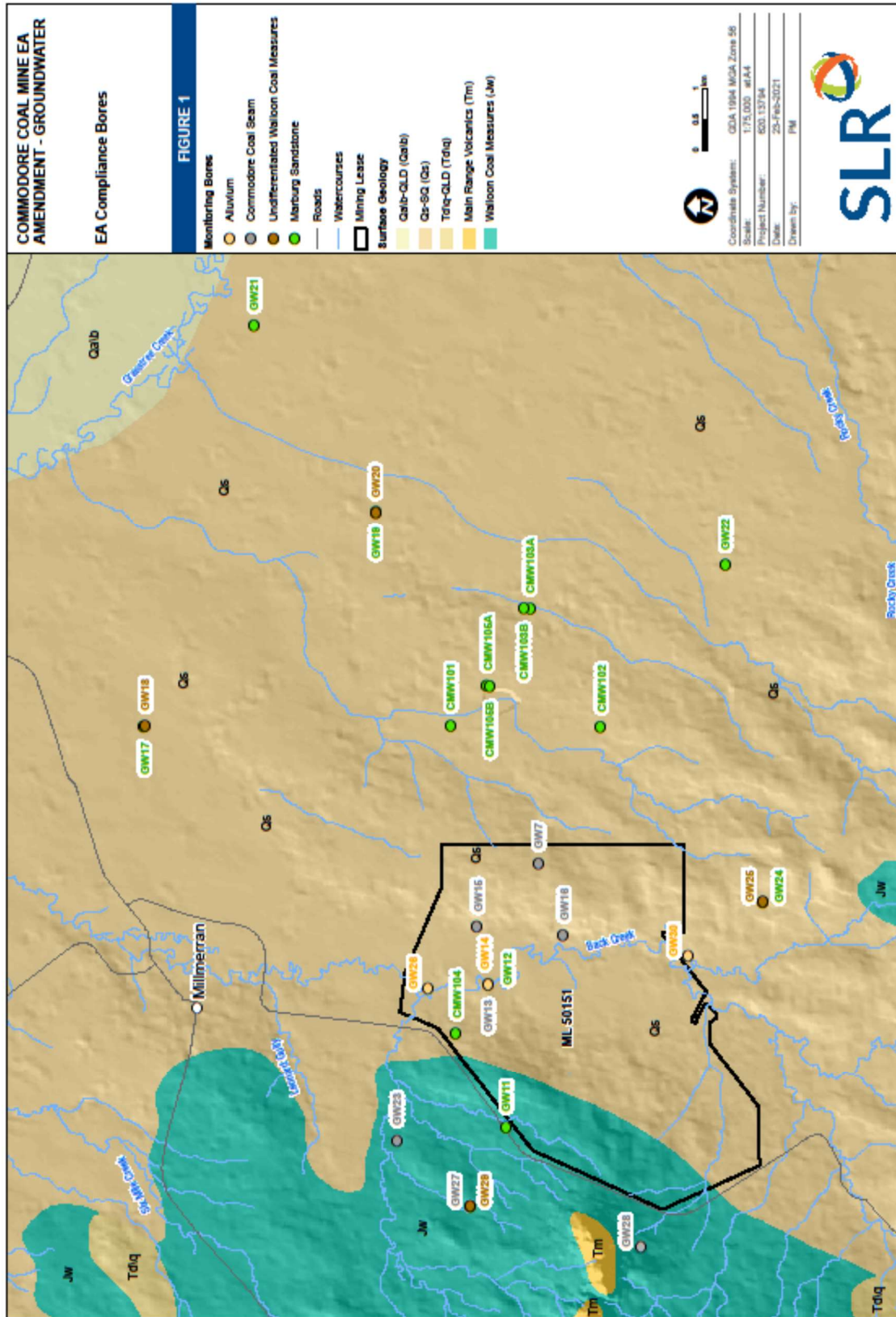
Figure 1 – “High Flow” (RL 422.531 mAHD) and “Low Flow” (RL 421.445 mAHD) visual indicators in Back Creek at MP1

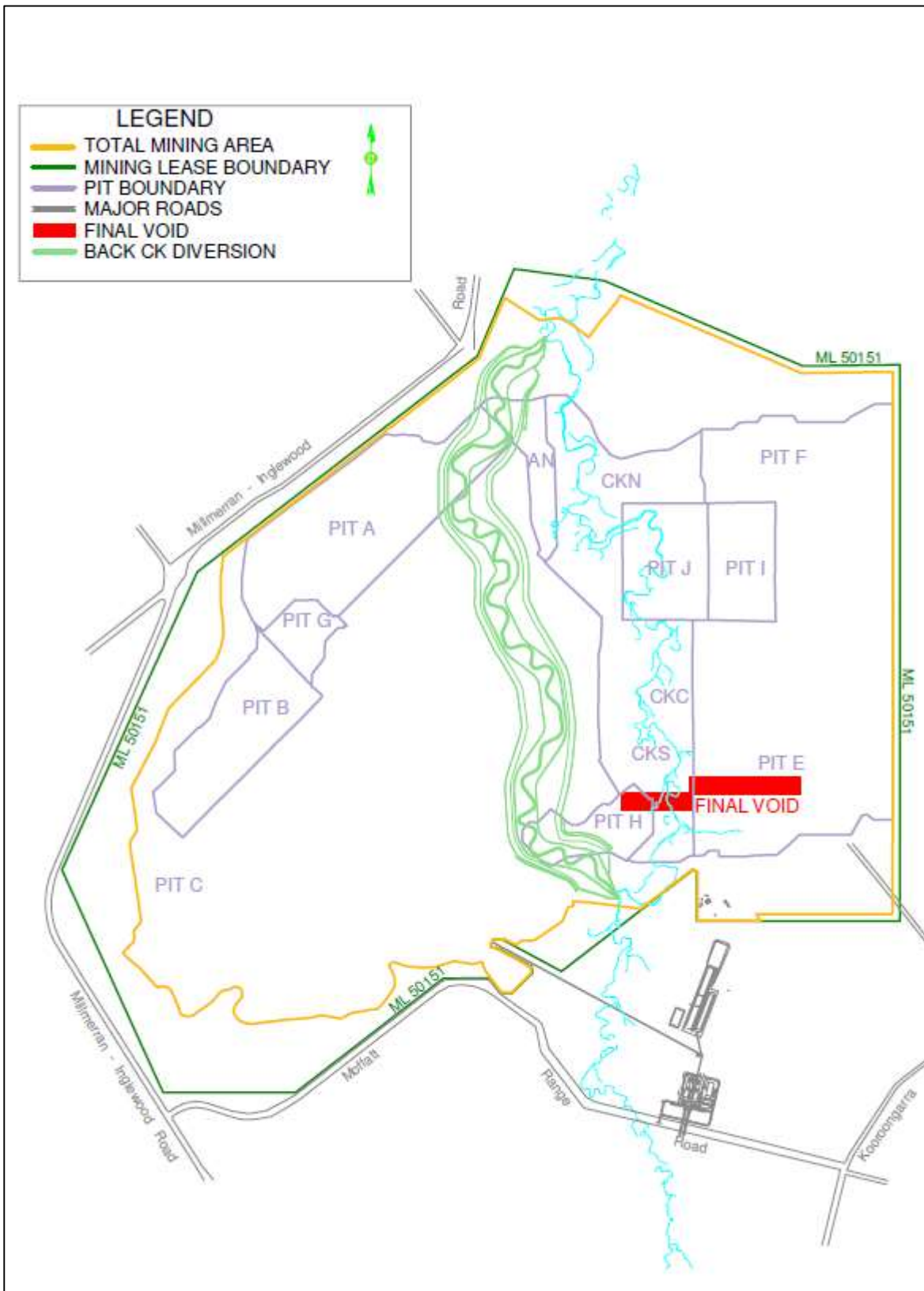


Map 1: Locations of surface water quality monitoring stations in Back Creek

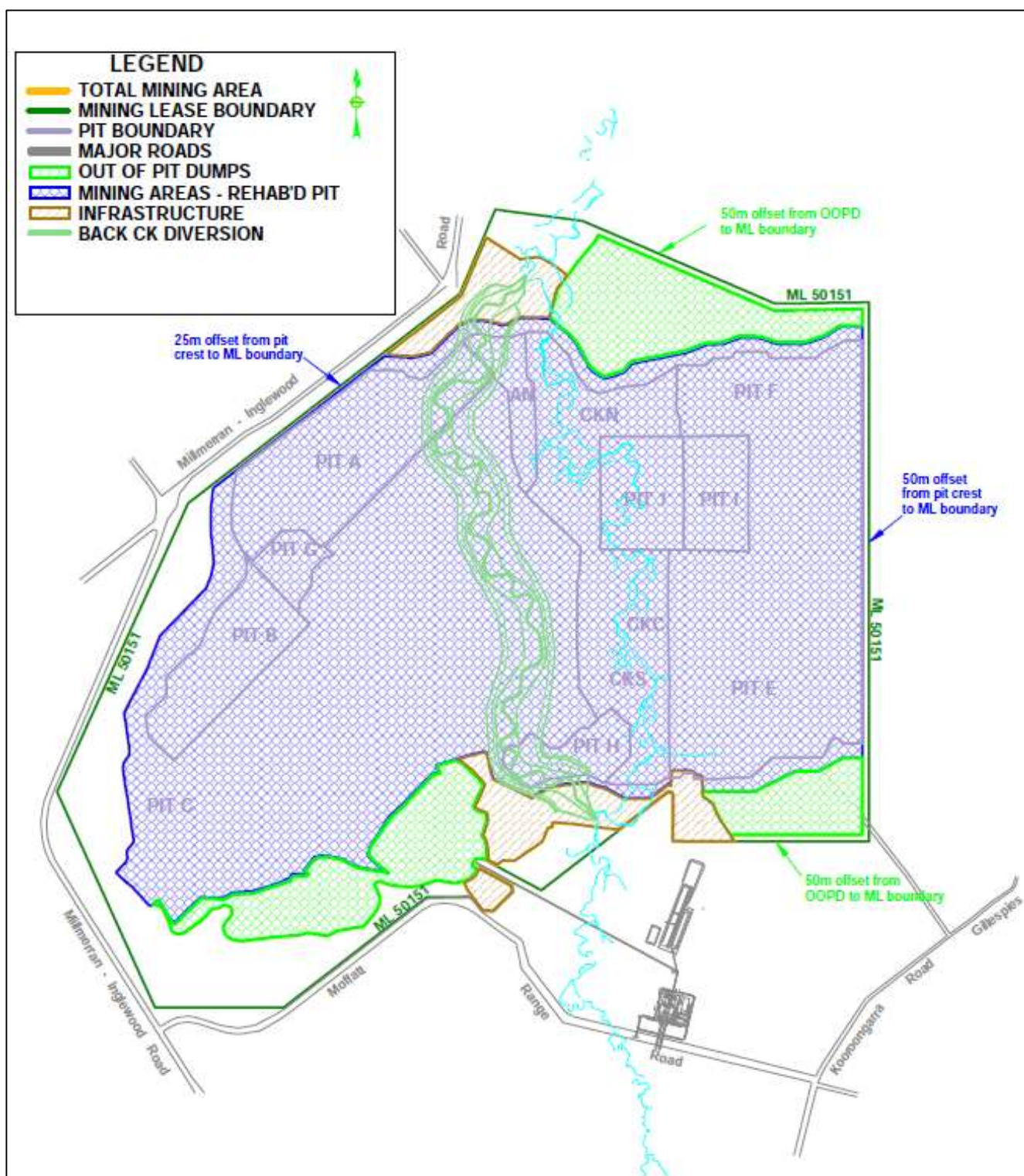


Map 2 – Locations of mine affected water quality monitoring in sedimentation ponds





Map 4: Location of final void



Map 5: Project Layout – (Authorised Disturbed Areas)

END OF ENVIRONMENTAL AUTHORITY