

Permit

Environmental Protection Act 1994

Environmental authority EA0000990

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

Environmental authority number: EA0000990

Environmental authority takes effect on 7 August 2023.

Environmental authority holder(s)

Name(s)	Registered address
CIVIL & MINING RESOURCES PTY LTD	c/o GRT Lawyers, Level 1, 400 Queen Street, Brisbane QLD 4000
LD DAWSON PTY LTD	16 Spitfire Pl RUTHERFORD NSW 2320

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
ERA 10 - Investigating the potential development of a mineral resource by large bulk sampling or constructing an exploratory shaft, adit or open pit	MDL521

Additional information for applicants

Environmentally relevant activities

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

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

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

Contaminated land

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

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

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

Take effect

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

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

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

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

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



Signature

7 August 2023

Date

Dr Emma Burgess

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

Enquiries:

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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Conditions of environmental authority

The environmentally relevant 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	Surface water
Schedule D	Groundwater
Schedule E	Acoustic
Schedule F	Land
Schedule G	Waste

Schedule A – General	
Condition number	Condition
A1	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by the activities authorised by this environmental authority.
A2	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.
A3	Authorised activities The activities conducted under this environmental authority on MDL521 must not exceed 134.2ha¹ and must not extend beyond the disturbance footprint in Appendix 1, Figure 1 – Project Layout.² ¹The total disturbance footprint does not include exploration and groundwater monitoring activities. ²Exploration and groundwater monitoring activities can be undertaken outside of the authorised disturbance footprint shown in Figure 1 – Project Layout within the tenure boundary, excluding areas of Matters of State Environmental Significance (MSES) and Matters of National Environmental Significance (MNES).
A4	The underground activity authorised in Appendix 1, Figure 1 – Project Layout must not result in disturbance of the land surface.
A5	The holder of this environmental authority is authorised to extract no more than 1,000 kilotonnes of run-of-mine (ROM) coal from MDL521.

A6	Maintenance of measures, plant and equipment The holder of this environmental authority must: (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.
A7	Monitoring 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.
A8	Management plans, reports and monitoring All management plans, reports, monitoring and monitoring determinations, required under any condition of this environmental authority must be developed by an appropriately qualified person(s).
A9	Upon request from the administering authority, copies of monitoring results, records, registers, management plans and reports required by the conditions of this environmental authority must be made available and provided to the administering authority within— (a) ten (10) business days; or (b) an alternative timeframe agreed between the administering authority and the environmental authority holder.
A10	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 the end of the timeframe nominated by the administering authority to undertake the investigation.
A11	Notification of emergencies, incidents and exceptions The holder of this environmental authority must notify the administering authority by written notification within twenty-four (24) hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

A12	Within ten (10) business days following the notification in accordance with condition A10, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: (a) results and interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency or incident.
A13	Complaints The holder of this environmental authority must record all environmental complaints received about the activities including: (a) name, address and contact number of the complainant; (b) time and date of complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) actions taken to resolve the complaint; (g) any abatement measures implemented; and (h) person responsible for resolving the complaint.
A14	The holder of this environmental authority must, when requested by the administering authority and within a reasonable timeframe nominated or agreed to by the administering authority: (a) investigate any complaint of environmental harm; (b) undertake the relevant specified monitoring; and (c) 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, provide to the administering authority the results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented.
A15	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must: (a) comply with the amended or changed standard, policy or guideline within two (2) years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation; and (b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

A16	Third-party reporting The holder of this environmental authority must: (a) obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority by 30 June 2024; (b) obtain further such reports at regular intervals, not exceeding three-yearly intervals, from the completion of the report referred to above; and (c) provide each report to the administering authority within ninety (90) days of its completion.
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Schedule B – Air	
Condition number	Condition
B1	Dust and particulate matter monitoring The environmental authority holder must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: (a) Dust deposition of 120 milligrams per square metre per day, averaged over one (1) month, when monitored in accordance with the most recent version of Australian Standard AS3580.10.1 <i>Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method</i>. (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM₁₀) suspended in the atmosphere of 50 micrograms per cubic metre over a twenty-four (24)-hour averaging time when monitored in accordance with the most recent version of either: (i) Australian Standard AS3580.9.9 <i>Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM₁₀ low volume sampler—Gravimetric method</i>; or (ii) Any alternative method of monitoring PM₁₀ which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority. (c) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a one (1) year averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.3:2003 <i>Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method</i>.
B2	When requested by the administering authority, or as a result of a complaint (which in the opinion of the authorised officer is neither frivolous nor vexatious nor based on mistaken belief), dust or particulate monitoring must be undertaken: (a) at a place or places relevant to the potentially affected sensitive or commercial place as agreed upon with the administering authority; (b) for a monitoring period as agreed upon with the administering authority; (c) for the relevant contaminant limits, averaging periods and in accordance with the methods specified in condition B1; and (d) the results of the monitoring undertaken are to be notified to the administering authority within ten (10) days following completion of monitoring.

B3	Dust management - Coal transport The environmental authority holder must take reasonable and practicable measures necessary to prevent release of windblown dust from vehicles used for transporting coal extracted from the site. Reasonable and practicable measures may include but are not limited to: (a) wetting down the load prior to transport; (b) having the entire load covered with a tarpaulin or similar material for the duration of transport; and (c) clearing of spillages from side rails, tail gates and draw bars of vehicles prior to and after delivery.
B4	Dust control - trafficable areas Trafficable areas (including entry and exit points from the Fitzroy Developmental Road) must be maintained using reasonable and practicable measures necessary to minimise the release of windblown or traffic generated dust to the atmosphere. Reasonable and practicable measures may include but are not limited to: (a) keeping surfaces clean; (b) sealing with bitumen or other suitable material; (c) using water sprays; (d) installing an effective truck body and wheel wash facility; and (e) using dust suppressants and wind breaks.

Schedule C – Surface Water	
Condition number	Condition
C1	Mine affected water must not be released directly or indirectly to the receiving environment.
C2	Water monitoring and sampling must address and comply with the latest version of the Queensland Government's 'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009'.
C3	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.
C4	Surface water monitoring Surface waters must be monitored: a) for the quality characteristics in Table C2 – Surface water quality objectives; b) at the monitoring frequency specified in Table C2 – Surface water quality objectives; and c) at the monitoring points identified in Table C1 – Surface waters monitoring locations.
C5	Unless otherwise advised by the administering authority, if a water quality characteristic measured at a downstream site specified in Table C1 – Surface waters monitoring locations exceeds any water quality objective specified in Table C2 – Surface water quality objectives the holder of this environmental authority must compare this result to the applicable upstream site and: (a) If the quality measured at a downstream site is equal to or less than the quality measured at the applicable upstream site, no further action is required; or (b) If the quality measured at a downstream site is greater than the quality measured at the applicable upstream site, complete an investigation into the cause of the deterioration in water quality and the potential for environmental harm and submit a written report to the administering authority via WaTERS within 20 business days outlining: (i) details of the investigation carried out including any assumptions and limitations of the investigation; (ii) findings of the investigation including an explanation of the cause identified; (iii) recommendations of the investigation; and (iv) actions taken to comply with the conditions of the environmental authority and to prevent environmental harm.
C6	If an exceedance in accordance with condition C5(b) occurs, the holder of the environmental authority must notify the administering authority within 24 hours of receiving the monitoring result via WaTERS and pollution hotline.

C7	Review of surface water quality objectives By 1 December 2024, the holder of this environmental authority must submit a report to the administering authority proposing site-specific surface water quality contaminant trigger levels to populate Table C2 – Surface water quality objectives.
C8	Water management plan A Water Management Plan must be developed and implemented for the duration of activities.
C9	The Water Management Plan required by condition C8 must: (a) provide for effective water management of actual and potential environmental impacts resulting from the activity(ies); and (b) include: i. a study of the source of contaminants; ii. a water balance model for the site; iii. a water management system for the site; iv. measures to prevent, manage and reduce potential for saline drainage; v. contingency procedures for incidents and emergencies; and vi. a program for monitoring and annual review of the effectiveness of the water management plan.
C10	Surface water and sediment controls An Erosion and Sediment Control Plan must be developed and implemented for the duration of activities to minimise erosion and the release of sediment to the receiving environment and contamination of stormwater.
C11	On an annual basis, the Erosion and Sediment Control Plan required by condition C10 must be updated and re-issued or reviewed by the holder of this environmental authority. The update or review must be completed by 30 November each calendar year.
C12	Surface water runoff, other than mine affected water, is permitted to be released to waters from: (a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition C10. (b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition C8, for the purpose of ensuring water does not become mine affected water.
C13	The holder of the environmental authority must design, install and maintain adequate banks and/or diversion drains to minimise the potential for storm water runoff to enter disturbed areas.
C14	The holder of the environmental authority must design, install and maintain adequate erosion and sediment control structures wherever necessary to prevent or minimise erosion of disturbed areas and the sedimentation of any watercourse, waterway, wetland or lake.

C15	Receiving Environment Monitoring Program The holder of this environmental authority must develop and implement a Receiving Environment Monitoring Program (REMP) Design Document by 1 November 2023 .
C16	The REMP Design Document required by condition C15 must at a minimum comply with the latest version of the administering authority's guideline <i>Receiving environment monitoring program guideline (ESR/2016/2399)</i> .
C17	A REMP Annual Report must be submitted to WaTERS annually.
C18	The REMP Annual Report required by condition C17 must: (a) be prepared by an appropriately qualified person; and (b) outline the findings of the REMP, including but not limited to: (i) an assessment of long-term upstream water quality; (ii) an assessment of the long-term condition or state of surface waters; (iii) recommendations for further investigation or actions; (iv) recommendations for changes or improvements to the monitoring program; (v) potential changes to management of the authorised activity to minimise impacts; (vi) all monitoring results; and (vii) a description of all conclusions formed.

Table C1 – Surface waters monitoring locations

Monitoring Location	Monitoring site description	Latitude (GDA2020)	Longitude (GDA2020)
Upstream background monitoring points			
SW1	Little Roundstone Creek at Fitzroy Development Road	-24.8137	149.5381
SW2	Punch Bowl Creek at upstream MDL boundary	-24.8738	149.5527
Downstream monitoring points			
SW3	Little Roundstone Creek at Dawson Highway	-24.6462	149.6387
SW4	Punch Bowl Creek at downstream MDL boundary	-24.8334	149.5640

Table C2 – Surface water quality objectives

Quality Characteristic ¹	Unit	Water quality objective	Monitoring frequency ⁶
pH	pH	6.5–8.5	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Electricidal Conductivity	µS/cm	340 ⁴	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Sulfate	µg/L	25,000 ⁴	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Dissolved oxygen	saturation	85%–110% ⁴	Commencement of release and thereafter weekly during release.
Ammonia	µg/L	20 ⁴	Commencement of release and thereafter weekly during release.
Total nitrogen	µg/L	500 ⁴	Commencement of release and thereafter weekly during release.
Total phosphorus	µg/L	50 ⁴	Commencement of release and thereafter weekly during release.
Turbidity	NTU	50 ⁴	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Suspended Solids	µg/L	10,000 ⁴	Daily during release (the first sample must be taken within 2 hours of commencement of release)
Aluminium (pH >6.5)	µg/L	55 ²	Commencement of release and thereafter weekly during release.
Arsenic	µg/L	13 ²	Commencement of release and thereafter weekly during release.
Cadmium	µg/L	0.2 ²	Commencement of release and thereafter weekly during release.
Chromium	µg/L	1 ²	Commencement of release and thereafter weekly during release.
Cobalt	µg/L	1.4 ³	Commencement of release and thereafter weekly during release.
Copper	µg/L	1.4 ²	Commencement of release and thereafter weekly during release.
Fluoride	µg/L	2,000 ⁵	Commencement of release and thereafter weekly during release.
Iron	µg/L	300 ³	Commencement of release and thereafter weekly during release.
Lead	µg/L	3.4 ²	Commencement of release and thereafter weekly during release.
Manganese	µg/L	1,900 ²	Commencement of release and thereafter weekly during release.
Mercury	µg/L	0.6 ²	Commencement of release and thereafter weekly during release.
Molybdenum	µg/L	34 ³	Commencement of release and thereafter weekly during release.
Nickel	µg/L	11 ²	Commencement of release and thereafter weekly during release.
Selenium (total)	µg/L	11 ²	Commencement of release and thereafter weekly during release.
Uranium	µg/L	0.5 ³	Commencement of release and thereafter weekly during release.

Vanadium	µg/L	6 ³	Commencement of release and thereafter weekly during release.
Zinc	µg/L	8 ²	Commencement of release and thereafter weekly during release.

NOTE:

- 1 All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger unless otherwise stated.
- 2 Aquatic ecosystem protection based on 95% for SMD slightly moderately disturbed level of protection, ANZ Water Quality Guidelines 2018, (ANZG 2018)
- 3 ANZG (2018) Aquatic ecosystem protection, based on low reliability guideline
4. Lower Dawson River Sub-basin waters (WQ1309), aquatic ecosystem—moderately disturbed (Table 2), *Environmental Protection (Water) Policy 2009 Dawson River Sub-basin Environmental Values and Water Quality Objectives Basin No. 130 (part), including all waters of the Dawson River Sub-basin except the Callide Creek Catchment*
5. ANZECC Livestock Drinking Water Guidelines (ANZG 2018)
6. In terms of monitoring frequency, “release” means releases from erosion and sediment control structures permitted under condition C12.

Schedule D – Groundwater	
Condition number	Condition
D1	The holder of this environmental authority must not release contaminants, directly or indirectly to groundwater.
D2	Groundwater Monitoring Program The holder of this environmental authority must develop a groundwater monitoring program by 31 December 2023 and implement the program by 30 June 2024 for the duration of activities.
D3	The groundwater monitoring program required by condition D2 must: (a) recommend monitoring methodology(ies), locations, frequencies and depths to populate the TBD values in Table D1 – Groundwater monitoring locations and frequency; (b) identify potential sources of contamination to groundwater from the activity; (c) ensure that all potential groundwater impacts due to the activity are identified, monitored and mitigated; (d) document management and monitoring methodology(ies); (e) ensure that adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: i. establish baseline datasets from existing monitoring bores; ii. detect any impacts to groundwater levels due to the activity; iii. detect any impacts to groundwater quality due to the activity; iv. determine trends in groundwater quality; and v. determine trends in groundwater level; (f) document a process of how a contaminant trigger investigation will be conducted, where triggers are used in Table D2 – Groundwater quality triggers; (g) include an appropriate quality assurance and quality control program; (h) include a conceptual groundwater model; and (i) include a review process to improve the program.
D4	The environmental authority holder must submit to the administering authority the information identified as TBD in Table D1 – Groundwater Monitoring Locations by 31 March 2024 .

D5	Groundwater Quality and Standing Water Level Groundwater quality and standing water level must be monitored: (a) at the locations and frequencies specified in Table D1 – Groundwater monitoring locations and frequency; (b) for relevant standing water trigger levels identified in Table D1 – Groundwater monitoring locations and frequency; and (c) for quality characteristics identified in Table D2 – Groundwater quality triggers.
D6	Groundwater Quality Trigger Limits By 30 June 2025, groundwater contaminant trigger limits as per Table D2 - Groundwater quality triggers must be reviewed, and a report submitted to the administering authority including: (a) an assessment determining if the groundwater monitoring network is fit for purpose including frequency of monitoring; (b) monitoring results of the baseline site-specific groundwater, containing a minimum of 12 samples collected in accordance with the <i>Groundwater Sampling and Analysis – A Field Guide</i>; (c) evaluate whether the replacement of interim trigger values for site specific values are appropriate for all parameters and provide site-specific trigger values to replace 'TBA' value specified in Table D2 - Groundwater quality limits; and (d) identify and interpret any trends in the groundwater network monitoring data.
D7	Standing Water Level (SWL) By 30 June 2025, SWL triggers as per Table D1 - Groundwater monitoring locations and frequency must be reviewed, and a report submitted to the administering authority, including: (a) an assessment determining if the groundwater monitoring network is fit for purpose including frequency of monitoring; (b) monitoring results of the baseline site-specific groundwater, containing a minimum of 12 samples; and (c) identify and interpret any trends in the groundwater network monitoring data.
D8	All determinations of groundwater quality and biological monitoring must be performed by an appropriately qualified person(s).
D9	The method of sampling of surface and groundwater must comply with that set out in the latest edition of the administering authority's <i>Monitoring and Sampling Manual</i>.
D10	Bore construction and maintenance and decommissioning The construction, maintenance, management and decommissioning of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.

D11	A bore report must be kept for each monitoring bore which includes: (a) a unique identification reference number and geographic coordinate location; and (b) construction information including but not limited to the depth of bore, depth and length of casing, depth and length of screening and bore sealing details; and (c) stratigraphy and target hydrogeological unit of the bore; and (d) depth at which groundwater was intercepted and the final standing water level (SWL) after bore development.
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Table D1 – Groundwater monitoring locations and frequency

Monitoring Location	Location (GDA 2020, Zone 55)		Aquifer	Screen depth (m)	Surface RL (m) ¹	SWL Investigation Trigger Level (mAHD)	Monitoring Frequency
	Easting	Northing					
TBD	TBD	TBD	TBD	TBD	TBD	TBD	Quarterly
TBD	TBD	TBD	TBD	TBD	TBD	TBD	
TBD	TBD	TBD	TBD	TBD	TBD	TBD	
TBD	TBD	TBD	TBD	TBD	TBD	TBD	

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

Table D2 – Groundwater quality limits

Quality Parameter	Unit	Investigation Trigger Level	
		Shallow Aquifer	Deep Aquifer
pH	pH Units	6.5 – 8.5	
Electrical Conductivity	µS/cm	12158 [^]	8712 [^]
Total Dissolved Solids	mg/L	TBA	TBA
Bicarbonate	mg/L	933 [^]	391 [^]
Chloride	mg/L	4061 [^]	3286 [^]
Sulfate	mg/L	416 [^]	8 [^]
Calcium	mg/L	345 [^]	263 [^]
Magnesium	mg/L	293 [^]	62 [^]
Sodium	mg/L	2944 [^]	2095 [^]
Potassium	mg/L	TBA	TBA
Dissolved Metals			
Aluminium	µg/L	TBA	TBA
Arsenic	µg/L	TBA	TBA
Boron	µg/L	TBA	TBA
Beryllium	µg/L	TBA	TBA
Cadmium	µg/L	TBA	TBA
Copper	µg/L	90 [^]	TBA
Iron	µg/L	200 [^]	292 [^]
Mercury	µg/L	TBA	TBA
Molybdenum	µg/L	TBA	TBA
Nickel	µg/L	TBA	TBA
Lead	µg/L	TBA	TBA
Selenium	µg/L	TBA	TBA
Silver	µg/L	TBA	TBA
Zinc	µg/L	35 [^]	TBA [^]
Hydrocarbons			
*TPH C6-C9	µg/L	20	

*TPH C10-C36	µg/L	100
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*- Total Petroleum Hydrocarbons (TPH).

^ - Interim groundwater quality parameters derived from EPP (water) policy 2009 *Dawson River Sub-basin Environmental Values and Water Quality Objectives Basin No.130 (part)*, including all waters of the Dawson River Sub-basin except the Callide Creek Catchment Zone 33. These values are to be replaced with site-specific levels once adequate data is available in accordance with **Condition D6**.

Table D3 - Groundwater standing water level trigger threshold

Monitoring location	Hydrogeological Unit	Baseline water level (mAHD)	Standing Water Level Trigger Threshold (mAHD)
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD

Schedule E – Acoustic	
Condition number	Condition
E1	The holder of this environmental authority must ensure that noise generated by the activity does not cause the criteria in Table E1- Noise limits to be exceeded at a sensitive place or commercial place.

Table E1 – Noise Limits

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

Note:

- (1) CV = Critical Value
- (2) AV = Adjustment Value
- (3) to calculate noise limits in Table RMN004(1):
 - (i) if $bg \leq (CV - AV)$: Noise limit = $bg + AV$
 - (ii) if $(CV - AV) < bg \leq CV$: Noise limit = CV
 - (iii) if $bg > CV$: Noise limit = $bg + 0$
- (4) in the event that measured bg (L_{A90} , adj, 15 mins) is less than 30 dB(A), then 30 dB(A) can be substituted for the measured background level
- (5) bg = background noise level (L_{A90} , adj, 15 mins) measured over 3-5 days at the nearest sensitive receptor
- (6) if the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the "Planning for Noise Control" guideline.

E2	Airblast overpressure nuisance The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and air blast overpressure in Table E2 - Blasting noise limits to be exceeded at a sensitive place or commercial place.
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Table E2 -Blasting noise limits

Blasting noise limits	Sensitive or Commercial Place Limits	
	7am to 6pm	6pm to 7am
Air blast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	No blasting

E3	Monitoring and reporting Noise monitoring and recording must include the following descriptor characteristics and matters: (a) LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins); (b) background noise LA90; (c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; (d) atmospheric conditions including temperature, relative humidity and wind speed and directions; (e) effects due to any extraneous factors such as traffic noise; (f) location, date and time of monitoring; and (g) if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
E4	When requested by the administering authority, or as a result of a complaint (which in the opinion of the authorised officer is neither frivolous nor vexatious nor based on mistaken belief), noise monitoring must be undertaken: (a) at a place or places relevant to the potentially affected sensitive or commercial place as agreed upon with the administering authority; (b) for a monitoring period as agreed upon with the administering authority; (c) for the relevant noise limits specified in Table E1 — Noise limits agreed upon with the administering authority; and (d) the results of the monitoring undertaken are to be notified to the administering authority within ten (10) business days following completion of monitoring.

Schedule F – Land	
Condition number	Condition
F1	Land disturbed by activities must be rehabilitated to native communities endemic to the surrounding area or capable of supporting low intensity grazing, in accordance with Table F1 – Rehabilitation requirements .
F2	Condition F1 does not apply if a mining lease application overlying all of MDL521 is granted within 18 months of the completion of extraction from the bulk sample pit and adit.
F3	The holder of this environmental authority must commence the rehabilitation processes on all areas disturbed by activities, apart from those areas currently being utilised, as soon as practicable and at least within five (5) year timeframe in Condition F2 .

Table F1 - Rehabilitation requirements

Mine domain	Mine feature name	Rehabilitation goal	Rehabilitation objectives	Indicators	Completion criteria
Active mine area	Test pit and test adit	1. Safe	Safe for humans and animals on decommissioning and into the foreseeable future.	Structurally and geotechnically adequate for the proposed final land use. Visual observation of erosion.	Test pit backfilled. Test adit sealed. Slopes $\leq 10\%$ to allow egress of livestock and wildlife.
		2. Non-polluting	Not a source of environmental harm to the surrounding environment.	Visual observation of erosion No water retention.	Minimal evidence of erosion. No environmental harm caused by run-off from final landform. Final landform is free draining.
		3. Stable	Vegetation cover equivalent to the surrounding environment. Low probability of erosion.	Percentage ground cover. Visual observation of erosion.	Evidence that the percentage ground cover of the rehabilitated areas is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion.
		4. Self-sustaining	Native communities endemic to the surrounding area or capable of supporting low intensity grazing.	Monitoring of species composition, species richness and percentage ground cover.	Evidence that the vegetation species richness/composition and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.
Sediment Dams	Sediment dams and surface water control infrastructure.	1. Safe	Safe for humans and animals on decommissioning and into the foreseeable future.	Water quality testing (if to be retained). Retention agreement with landowner in place. Structure removed.	Safely accessible for use by animals (if to be retained). Water quality meets the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000) for stock drinking water or structure removed.
		2. Non-polluting	Sediment removed (if to be retained) and water quality meets ANZECC 2000 guidelines for stock drinking water.	Water quality monitoring (if to be retained).	Water quality meets the ANZECC 2000 guidelines for stock drinking water (if to be retained).
		3. Stable	Vegetation cover to minimise erosion of banks (if to be retained).	Percentage ground cover. Visual observation of erosion.	Evidence that the percentage ground cover of the rehabilitated areas is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion.
		4. Self-sustaining	Native communities endemic to the surrounding area or capable of supporting low intensity grazing.	Monitoring of species composition, species richness and percentage ground cover.	Evidence that the vegetation species richness/composition and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.

Mine domain	Mine feature name	Rehabilitation goal	Rehabilitation objectives	Indicators	Completion criteria
Infrastructure	Buildings; Roads; Hardstand areas; ROM pad; Stockpile areas; Chemical and fuels storages.	1. Safe	Safe for humans and animals on decommissioning and into the foreseeable future.	Infrastructure removed or retained by agreement.	Evidence that adequate safety measures are in place for all infrastructure retained by agreement.
		2. Non-polluting	Hazardous material adequately managed, presenting a low risk of environmental harm.	Contaminated land site investigation.	No contaminated land area identified. The land has either been removed from the environmental management register or the land has a site management plan approved.
		3. Stable	Vegetation cover similar to the surrounding undisturbed environment. Low probability of erosion.	Percentage ground cover. Visual observation of erosion.	Evidence that the percentage ground cover is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion.
		4. Self-sustaining	Native communities endemic to the surrounding area or capable of supporting low intensity grazing.	Monitoring of species composition, species richness and percentage ground cover.	Evidence that the vegetation species richness/composition and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.
Spoil dump	Spoil pile area	1. Safe	Safe for humans and animals on decommissioning and into the foreseeable future.	Spoil removed. Visual observation of erosion	Spoil removed and used to backfill the test pit. Remaining area graded to a landform similar to the surrounding undisturbed landform.
		2. Non-polluting	Not a source of environmental harm to the surrounding environment.	Visual observation of erosion.	Minimal evidence of erosion. No environmental harm caused by run-off from final landform.
		3. Stable	Vegetation cover similar to the surrounding undisturbed environment. Low probability of erosion.	Percentage ground cover. Visual observation of erosion.	Evidence that the percentage ground cover of the rehabilitated areas is similar to the surrounding undisturbed environment and evidence that the appropriate control measures are in place to minimise erosion.
		4. Self-sustaining	Native communities endemic to the surrounding area or capable of supporting low intensity grazing.	Monitoring of species composition, species richness and percentage ground cover.	Evidence that the vegetation species richness/composition and vegetation cover/density of the rehabilitated areas is similar to the surrounding undisturbed environment and is self-sustaining over time.

F4	Exploration Unless otherwise stated by a condition of this environmental authority, disturbance due to exploration activities in areas not authorised to be disturbed as shown in Figure 1.- Project Layout must be rehabilitated in accordance with provision detailed in the <i>Eligibility criteria and standard conditions for exploration and mineral development projects (Version 2)</i>.
F5	Topsoil The holder of the environmental authority must ensure that topsoil is removed and stockpiled prior to carrying out any activity. The holder of the environmental authority must prevent or minimise the mixing and erosion of topsoil and overburden stockpiles.
F6	Matters of State Environmental Significance (MSES) Impacts to MSES as a result of carrying out the activity must not occur.
F7	Chemicals and flammable or combustible liquids The holder of the environmental authority must not directly or indirectly release hazardous contaminants to the receiving environment.
F8	All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current edition of AS1940 – Storage and Handling of Flammable and Combustible Liquids.
F9	All chemicals and flammable or combustible liquids stored on site that have the potential to cause environmental harm must be stored in or serviced by an effective containment system that is impervious to the materials stored and managed to prevent the release of liquids to waters or land. Where no relevant Australian standard exists, store such materials within an effective on-site containment system. The environmental authority holder must minimise the potential for contamination of land and water by diverting stormwater around contaminated areas and facilities used for the storage of chemicals and flammable or combustible liquids.
F10	The holder of the environmental authority must ensure that spills of hazardous contaminants are cleaned up as quickly as practicable.

Schedule G – Waste	
Condition number	Condition
G1	The holder of the environmental authority must not directly or indirectly release waste from the project area to any watercourse, waterway, groundwater, wetland or lake.
G2	General waste generated by activities must be removed to a licenced waste facility that is lawfully able to accept the waste under the <i>Environmental Protection Act 1994</i> .
G3	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
G4	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.
G5	Storage and disposal of tyres Tyres must be stored and disposed of in accordance with the Operational policy - Disposal and storage of scrap tyres at mine sites ESR/2016/2380 Version 2.02, or the most recent revision available.
G6	Coarse fines and rejects must not be disposed of on MDL521.

Definitions

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

Administering authority is the agency that administers the environmental authority provisions under the *Environmental Protection Act 1994*.

Activity(ies) means all environmentally relevant activities authorised under this environmental authority.

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.

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.

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

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 activities 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 activity has ceased
- f. releasing of contaminants into the soil, or underlying geological strata.

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

- a. areas off lease (e.g. roads or tracks which provide access to the mineral development 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.

Environmental nuisance has the meaning in section 15 of the *Environmental Protection Act 1994*.

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

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

Mine affected water:

- a. means the following types of water:
 - i. pit water, tailings dam water, processing plant water
 - ii. water contaminated by an 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 activity
 - iii. rainfall runoff which has been in contact with any areas disturbed by 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 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 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:
 - areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site
 - 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
 - both.

Minimise means to reduce to the smallest possible amount or degree.

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
- c. an area of land that is not specified in **Figure 1 – Project Layout** of this environmental authority.

Rehabilitation is the process of reshaping and revegetating land to restore it to a stable landform.

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:

- 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. a kindergarten, school, university or other educational institution; or
- d. a medical centre or hospital; or
- e. a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
- f. a public park or garden; or
- g. for noise, a place defined as a sensitive receptor for the purposes of the *Environmental Protection (Noise) Policy 2019*.

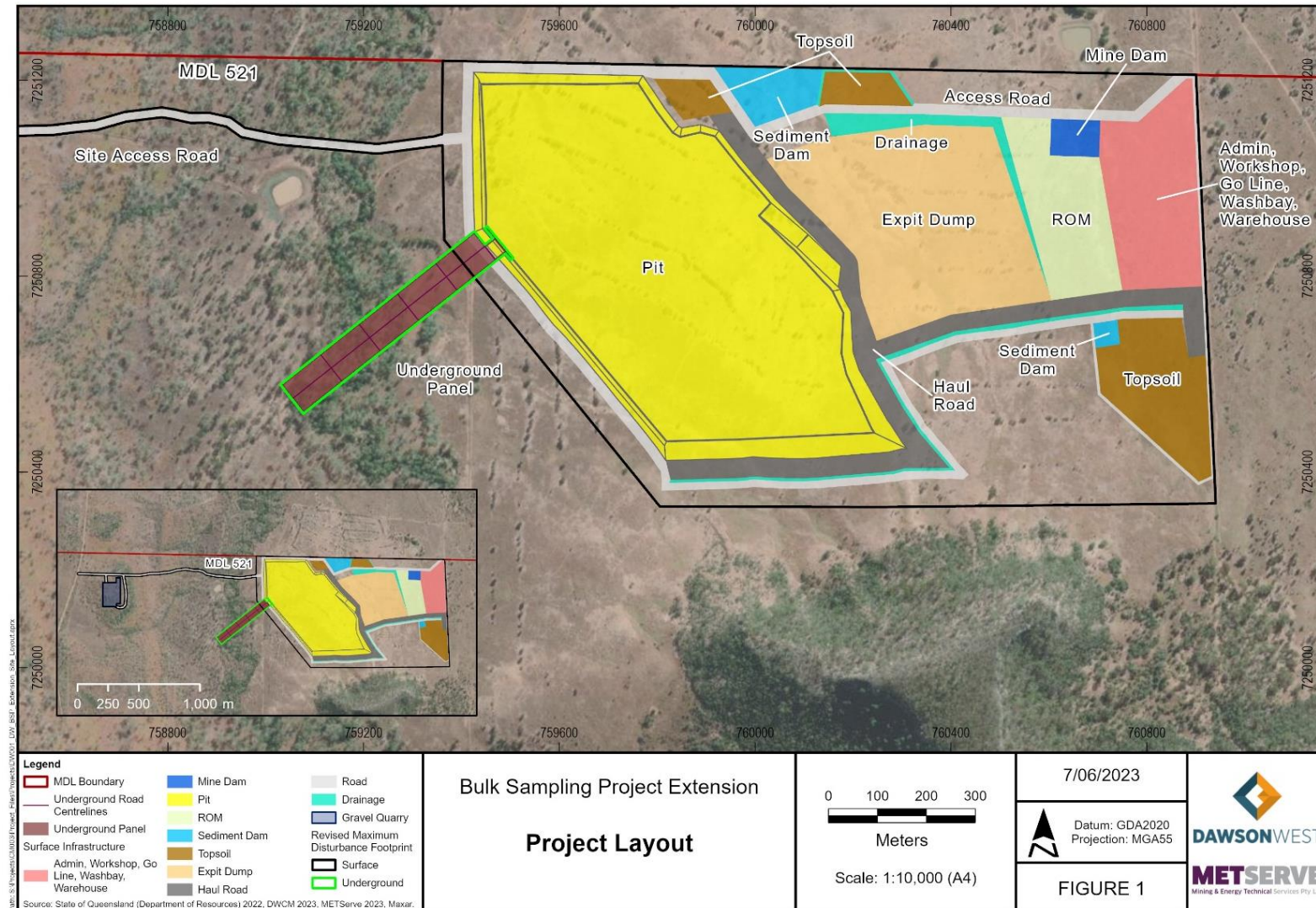
Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), storm water channel, storm water drain, and groundwater and any part thereof.

WaTERS means the Queensland Government's WaTERS database system.

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

Watercourse is defined in the *Water Act 2000*

Appendix 1 Figure 1 – Project Layout



END OF ENVIRONMENTAL AUTHORITY