

Permit

Environmental Protection Act 1994

Environmental authority P-EA-100114292 Gemini Coal Mine

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

Environmental authority number: P-EA-100114292

Environmental authority takes effect on 27 February 2025.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. The payment of the annual fee will be due each year on this day.

An annual return will be due each year on 01 April.

Environmental authority holder(s)

Name(s)	Registered address
Magnetic South Pty Ltd	Suite 6D, Level 6, 102 Adelaide Street BRISBANE QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 13: Mining black coal	ML700056
Ancillary 8 – Chemical storage 3: storing more than 500m ³ of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML700056
Ancillary 31 – Mineral processing 2: processing, in a year, the following quantities of mineral products, other than coke— (b) more than 100,000t	ML700056
Ancillary 33 – Crushing, milling, grinding or screening: crushing, grinding, milling or screening more than 5,000t of material in a year	ML700056
Ancillary 60 – Waste disposal 2: operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b)— (h) more than 200,000t	ML700056
Ancillary 63 – Sewage treatment 1: operating sewage treatment works, other than no-release works, with a total daily peak design capacity of— (b)(i) more than 100 but not more than 1,500EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML700056

Additional information for applicantsEnvironmentally relevant activities

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

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

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

Mobile and temporary activities

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

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

Contaminated land

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

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

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

Take effect

Please note that, in accordance with section 200 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.

Environmental authority P-EA-100114292 Gemini Coal Mine

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

27/02/2025

Date

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

Enquiries:
Business Centre Coal
Department of the Environment, Tourism, Science
and Innovation
PO Box 3028
EMERALD QLD 4720
Phone: (07) 4987 9320
Email: CRMining@des.qld.gov.au

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

Schedule A: General	
Condition number	Condition
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	Mining activities must not be undertaken beyond the authorised disturbance area depicted as 'Disturbance Extent' in Figure A1 – Approved Disturbance Area. For the purposes of this condition only, the following activities are not relevant to this condition: a) Installation and operation of monitoring equipment; b) Monitoring or sampling required by a plan or program required by a condition of this environmental authority; and c) Exploration activities conducted in accordance with the standard conditions in the '<i>Eligibility criteria and standard conditions for exploration and mineral development projects</i>' and located outside of mapped matters of state environmental significance (MSES) areas.
A3	The environmental authority holder is authorised to extract 1.9 million tonnes per annum (Mtpa) of ROM (run-of-mine) coal.
A4	The environmental authority holder is only permitted to process or stockpile coal from within ML700056.
A5	The environmental authority holder is only authorised to produce, handle and load 1.4 million tonnes per annum (Mtpa) of product coal.
A6	The environmental authority holder is not authorised to stockpile coal within the rail loop or any area north of the Capricorn Highway.
A7	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.

A8	Monitoring and Records All monitoring and determinations required by this environmental authority must be performed by an appropriately qualified person and copies of monitoring records must be submitted to the administering authority upon request. Monitoring records must be kept for a period of not less than five (5) years.
A9	All monitoring equipment must be installed in accordance with relevant standards or as otherwise approved by the administering authority.
A10	Risk Management The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the <i>Standard for Risk Management (ISO31000:2018)</i>, or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, prior to commencement of operations.
A11	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 initial notification of an emergency or incident, 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	The holder of this environmental authority must record all environmental complaints received about the mining activities including: 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.
A14	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm.

A15	The results of the investigation required by Condition A14 (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.
A16	Third-Party Reporting The holder of this environmental authority must: a) Within one year of the commencement of this environmental authority, obtain from an appropriately qualified person, a report on compliance with the conditions of this environmental authority; b) Obtain further such reports at regular intervals, not exceeding three-yearly intervals from the completion of the report referred to above; and c) Provide each report to the administering authority within ninety (90) days of its completion.
A17	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must: a) Comply with the amended or changed standard, policy or guideline within two years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to a condition, the time specified in that condition; and b) Until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.
A18	Commencement of mining activities Within forty-eight (48) hours of commencing any mining activities, the holder must provide the administering authority with written notification of commencement. For the purposes of this condition only, the following activities are not relevant to this condition: a) Installation and operation of monitoring equipment; b) Monitoring or sampling required by a plan or program required by a condition of this environmental authority; and c) Exploration activities conducted in accordance with the standard conditions in the '<i>Eligibility criteria and standard conditions for exploration and mineral development projects</i>' and located outside of mapped matters of state environmental significance (MSES) areas.

A19	For the purposes of 'commencement of mining activities' under conditions B3, B6, D4, D6, D7, E3, F2, F9 and F15, the following activities are not relevant: a) Installation and operation of monitoring equipment; b) Monitoring or sampling required by a plan or program required by a condition of this environmental authority; and c) Exploration activities conducted in accordance with the standard conditions in the '<i>Eligibility criteria and standard conditions for exploration and mineral development projects</i>' and located outside of mapped matters of state environmental significance (MSES) areas.
------------	---

Schedule B: Air	
Condition number	Condition
B1	The environmental authority holder must ensure that mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not cause exceedances of the following levels when measured at any sensitive or commercial place: a) Dust deposition of 120 milligrams per square metre per day (mg/m²/day), averaged over one month, when monitored in accordance with the most recent version of <i>AS3580.10.1: Methods for sampling and analysis of ambient air - Method 10.1: 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 24-hour averaging time when monitored in accordance with the most recent version of either: i) AS3580.9.6 Methods for sampling and analysis of ambient air Part 9.6: Determination of suspended particulate matter - PM₁₀ high volume sampler with size-selective inlet - Gravimetric method; or ii) AS3580.9.9 Methods for sampling and analysis of ambient air Part 9.9: Determination of suspended particulate matter - PM₁₀ low volume sampler - Gravimetric method; or iii) Any alternative method of sampling PM₁₀, where approved in writing by the administering authority. c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM_{2.5}) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of AS3580.9.10 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM_{2.5} low volume sampler—Gravimetric method; and d) A concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of AS3580.9.3 Methods for sampling and analysis of ambient air – Method 9.3: Determination of suspended particulate matter - Total suspended particulate matter (TSP) - High volume sampler gravimetric method.
B2	The holder of this environmental authority must undertake monitoring of air quality in accordance with Table B1 – Air Quality Monitoring Locations as shown in Figure B1 - Noise and Air Quality Monitoring Locations and the standards listed in Condition B1.
B3	Monitoring in accordance with Table B1 – Air Quality Monitoring Locations must commence within six (6) months of the grant of ML700056 or prior to commencement of mining activities, whichever is sooner.

Environmental authority P-EA-100114292 Gemini Coal Mine

B4	When requested by the administering authority or as a result of a complaint, dust and particulate monitoring (including dust deposition, TSP, PM ₁₀ and PM _{2.5}) must be undertaken, and the results thereof notified to the administering authority within fourteen (14) days following completion of monitoring.
B5	If the monitoring, which is carried out in accordance with Condition B4, indicates an exceedance of the relevant limits in Condition B1, then the environmental authority holder must investigate whether the exceedance is due to emissions from the activity. If the mining activity is found to be the cause of the exceedance, then the environmental authority holder must: a) Notify the administering authority within seven (7) days of an exceedance of the relevant limits in Condition B4. b) Address the complaint including the use of appropriate dispute resolution, if required; and c) Implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B6	The holder of this environmental authority must develop and implement an air quality management plan within six (6) months of the grant of ML700056 or prior to commencement of mining activities, whichever is sooner. The air quality management plan must include: • a summary of the baseline environment and the potential impacts of the Project on air quality; • identification of sensitive receivers surrounding the Project; • use of real-time measurement of dust levels and meteorological conditions; • details of mitigation measures implemented for mining and ancillary activities • implementation of a Trigger Action Response Plan as a dust management procedure that aims to investigate and respond to unexpected dust exceedances by: ○ trigger: nomination of air quality trigger values based on complaints and/or real-time dust and meteorological measurement and a range of additional measures which will be implemented, as necessary; ○ alert: an alert occurs as a result of the conditions of a trigger being met. Each alert requires one or more responses; ○ response: a response is a dust management action that may be implemented as a result of an alert being issued; and ○ action: an action is a specific activity that is condition as part of a response. • an air quality monitoring program detailing the monitoring network, equipment requirements and monitoring, reporting and review procedures; • a complaints and handling response procedure; and • details of the roles and responsibilities of personnel.

Table B1 – Air Quality Monitoring Locations

Monitoring Site ID	Monitoring Location		Air Quality Indicator	Frequency
	Monitoring Point Eastings (GDA2020, Zone 55)	Monitoring Point Northings (GDA2020, Zone 55)		
Northwest Primary Site	726961	7385781	PM ₁₀	Continuous
			Dust Deposition	Continuous monthly period as per AS
			Meteorological Conditions	Hourly
Dingo Township	736054	7383876	PM ₁₀	Continuous
			Dust Deposition	Continuous monthly period as per AS
			Meteorological Conditions	Hourly
South Secondary Site	728644	7374818	PM ₁₀	Continuous
			Dust Deposition	Continuous monthly period as per AS
			Meteorological Conditions	Hourly
SR 22 (Redrock Park)	726358	7386470	PM ₁₀	Continuous
			Dust Deposition	Continuous monthly period as per AS
			Meteorological Conditions	Hourly
Taunton National Park (Scientific)	729305	7388911	PM ₁₀	Continuous
			Dust Deposition	Continuous monthly period as per AS
			Meteorological Conditions	Hourly

Schedule C: Waste	
Condition number	Condition
C1	All general and regulated waste (except tyres) must be removed from site to a facility that is lawfully able to accept the waste under the <i>Environmental Protection Act 1994</i> .
C2	Subject to demonstrating to the administering authority that no other use higher in the waste management hierarchy can be practicably implemented, waste tyres generated from mining activities may be disposed of onsite in waste rock emplacements in accordance with the administering authority's Operational Policy <i>Disposal and storage of scrap tyres at mine sites</i> (ESR/2016/2380).

C3	Scrap tyres resulting from mining activities disposed within the operational land must not impede saturated aquifers, cause contamination or compromise the stability of the consolidated landform.
C4	Waste must not be burnt.
C5	Mine waste Tailings and waste rock must be managed in accordance with a Management Plan that includes: a) characterisation programs to ensure that the physical and chemical properties of the mining waste is progressively characterised during disposal; b) a program for progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings. c) the availability or leachability of metals from the mining waste; d) quantification of PAF from mining waste present; e) review impacts of the PAF mining waste on the rehabilitation; f) management actions for mining waste that has been identified as having a high availability or leachability of metals; g) management actions for mining waste that has been defined as PAF; h) identification of environmental impacts and potential environmental impacts; i) control measures for routine operations to minimise likelihood of environmental harm; j) containment of tailings; k) records to indicate locations and characteristics of tailings stored within tailings storage facilities; l) the management of seepage and leachates from tailings storages both during operation and the foreseeable future; and m) the control of fugitive emissions to air.

Schedule D: Noise and vibration	
Condition number	Condition
D1	The holder of this environmental authority must ensure that noise generated by the mining activities does not cause a limit in Table D2 – Noise limits to be exceeded at a sensitive place or commercial place.
D2	Airblast Overpressure Nuisance The holder of this environmental authority must ensure that blasting does not cause a limit for peak particle velocity and air blast overpressure in Table D3 – Blasting limits to be exceeded at a sensitive place or commercial place.

D3	The environmental authority holder must install, maintain and operate continuous noise monitoring stations in accordance with Condition D5 and D6 at the locations defined in Table D1 – Noise Monitoring Locations as shown in Figure B1 - Noise and Air Quality Monitoring Locations and at the locations in the Noise Management Plan required by Condition D6 .
D4	Monitoring in accordance with Table D1 – Noise Monitoring Locations , Condition D3 and Condition D5 must commence within six (6) months of the grant of ML700056 or prior to commencement of mining activities , whichever is sooner.
D5	Monitoring and Reporting The environmental authority holder must conduct noise monitoring to determine compliance with Table D2 – Noise limits, which must include, but not be limited to: a) Continuous noise monitoring, in accordance with relevant Australian Standards and at the locations identified in the Noise Management Plan required by Condition D6; b) The level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels; c) Atmospheric conditions including temperature, relative humidity and wind speed and directions; d) Effects due to any extraneous factors such as traffic noise; and e) Location, date and time of monitoring.
D6	The holder of this environmental authority must develop and implement a Noise Management Plan within six (6) months of the grant of ML700056 or prior to commencement of mining activities whichever is sooner. The Noise Management Plan must include: a) a description of noise monitoring locations, including GPS coordinates and monitoring frequency; b) a description of noise monitoring procedures to identify potential noise exceedances; c) noise trigger values to prevent exceedances at sensitive receptors; d) management and mitigation strategies to reduce noise levels at sensitive receptors; e) Trigger Action Response Plan; f) a description of the complaint management and investigation process; and, g) an annual review of the acquired monitoring data and the suitability of the noise management plan.

D7	The holder of this environmental authority must develop and implement a blast monitoring and management program within six (6) months of the grant of ML700056 or prior to commencement of mining activities whichever is sooner, to monitor compliance with Table D3 – Blasting limits for: a) At least 50% of all blasts undertaken on this site in each month at the nearest sensitive place or commercial place; and b) All blasts conducted during any time period specified by the administering authority at the nearest and most affected sensitive place(s) or commercial place(s) or another such place to investigate an allegation of environmental nuisance caused by blasting.
-----------	---

Table D1 – Noise Monitoring Locations

Monitoring Site ID	Monitoring Location		Frequency
	Monitoring Point Eastings (GDA2020, Zone 55)	Monitoring Point Northings (GDA2020, Zone 55)	
SR 22 (Redrock Park)	726358	7386470	Continuous
Taunton National Park (Scientific)	729305	7388911	Continuous
Locations in the noise management plan	TBC	TBC	Continuous

Table D2 – Noise limits

Noise level dB(A) measured as:	<u>Sensitive or commercial place</u>		
	7:00 am to 6:00 pm	6:00 pm to 10:00 pm	10:00 pm to 7:00 am
<u>L_{Aeq, adj, 1hr}</u>	40	40	35

Table D3 – Blasting limits

Blasting Parameter	<u>Sensitive or commercial place</u>	
	7:00 am to 6:00 pm	6:00 pm to 7:00 am
Airblast overpressure:	115dBZ peak for 4 out of 5 consecutive blasts initiated; or Not greater than 120dBZ peak at any time.	No blasting is allowed during these times.
Ground vibration peak particle velocity	For vibrations of more than 35Hz – no more than 25mm per second ground vibration, peak particle velocity, or For vibrations of no more than 35Hz – no more than 10mm of second peak particle velocity.	No blasting is allowed during these times.

Schedule E: Groundwater	
Condition number	Condition
E1	The holder of this environmental authority must not release contaminants to groundwater.
E2	All determinations of groundwater quality must be performed by an appropriately qualified person.
E3	Groundwater Monitoring Program The holder of this environmental authority must develop and implement a groundwater monitoring program within six (6) months of the grant of ML700056 or prior to commencement of mining activities whichever is sooner, for the duration of mining activities and this environmental authority.
E4	The groundwater monitoring program must: a) Be in accordance with Table E1 – 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 sampling and monitoring methodology; e) Ensure that adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: i) Establish baseline (not mine affected) datasets from existing monitoring bores; ii) Detect any impacts to groundwater levels due to the mining activity; iii) Detect any impacts to groundwater quality due to the mining activity; iv) Determine trends in groundwater quality; and v) Determine trends in groundwater level; f) Include an appropriate quality assurance and quality control program; g) Include a conceptual numerical groundwater model; and h) Include a review process to improve the program.
E5	Groundwater quality and levels must be monitored at the locations and frequencies defined in Table E1 – Groundwater monitoring locations and frequency as shown in Figure E1 – Groundwater and surface water monitoring locations for quality characteristics identified in Table E2 – Groundwater quality limits .
E6	Groundwater quality measured at monitoring bores identified in Table E1 – Groundwater monitoring locations and frequency , must not exceed the Limits of any quality characteristic specified in Table E2 – Groundwater quality limits , on any three (3) consecutive sampling occasions.

E7	If groundwater quality measured at any monitoring bore exceeds the corresponding Limit specified in Table E2 – Groundwater quality limits , on any single sampling occasion, the holder of this environmental authority must resample the groundwater within the monitoring bore for the parameter exceeded, within ten (10) business days of receipt of the results.
E8	In the event that groundwater quality exceedance results are confirmed by resampling, as specified in Condition E7, the holder of this environmental authority must: a) Notify the administering authority via WaTERS within fourteen (14) days of receiving the resampling result; and b) Within three (3) months of receiving the result, complete, and submit via WaTERS, an investigation undertaken by an appropriately qualified person outlining: i) Details of the investigations carried out; ii) Whether the result is directly associated with mining activities, and, if so; iii) Whether environmental harm has occurred; and iv) Any action taken to mitigate environmental harm.
E9	Groundwater level investigation If results of water level monitoring exceed the drawdown trigger level threshold specified in Table E3 - Groundwater level monitoring, the holder of the environmental authority must: a) Notify the administering authority via WaTERS within fourteen (14) days of receiving the result: and b) Within three (3) months of receiving the result complete an investigation to determine if the exceedance is a result of: i. mining activities authorised under this environmental authority; ii. natural variation; or iii. neighbouring land use resulting in groundwater impacts.
E10	The holder of this environmental authority must notify the administering authority via WaTERS and provide a report of the investigation to the administering authority via WaTERS within twenty-eight (28) days of completion of the investigation under Condition E9 .
E11	If the investigation under Condition E9 determined that the exceedance was the result of mining activities authorised under this environmental authority, then investigations must be undertaken by the holder of this environmental authority to establish whether environmental harm has occurred or may occur.
E12	If an investigation undertaken in accordance with Condition E11 determines that environmental harm has or may occur, the holder of this environmental authority must: a) implement immediate measures to reduce the potential for environmental harm; and b) develop long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination.

E13	The holder of this environmental authority must provide a report detailing the measures implemented to reduce the potential for environmental harm as well as the long-term mitigation measures to the administering authority within twenty-eight (28) days after completing the investigation under Condition E11 .
E14	Groundwater monitoring Results of groundwater quality and level monitoring must be submitted to the administering authority via WaTERS by 1 August each calendar year.
E15	Where the removal of a bore will result as a direct result of the mining activity, the impact on the monitoring program must be evaluated and a replacement bore constructed prior to its removal for continuity and to ensure that groundwater monitoring continues to meet the requirements in Condition E3 .
E16	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.

Table E1 – Groundwater monitoring locations and frequency

Site	Bore ID	Easting (GDA2020, Zone 55)	Northing (GDA2020, Zone 55)	Bore Depth (m)	Groundwater Unit Monitored	Monitoring Frequency
2	DW7067W	730782	7382395	100.14	Permian	Quarterly
	DW7068W	730786	7382392	47.5	Tertiary	Quarterly
3	DW7069W	730398	7382700	71.38	Permian	Quarterly
	DW7071W	730395	7382704	31.59	Permian	Quarterly
	DW7072W	730404	7382688	14.01	Tertiary	Quarterly
4	DW7073W	729927	7382667	82.1	Permian	Quarterly
	DW7074W	729923	7382667	55.78	Permian	Quarterly
	DW7075W	729919	7382667	14.03	Tertiary	Quarterly
5	DW7076W	729751	7382724	12	Alluvium	Quarterly
6	DW7033W1	731544	7383769	45.23	Tertiary	Quarterly
	DW7033W2	731547	7383774	74.77	Permian	Quarterly
	DW7033W3	731549	7383778	81	Permian	Quarterly
10	DW7105W1	730193	7380734	23.04	Tertiary	Quarterly
	DW7105W2	730194	7380730	69.25	Permian	Quarterly
14	DW7225W1	730468	7378360	37	Tertiary	Quarterly
	DW7225W2	730467	7378356	78.9	Permian	Quarterly
	DW7225W3	730466	7378352	112.8	Permian	Quarterly
17	DW7292W1	732906	7381109	15	Alluvium	Quarterly

Table E2 – Groundwater quality limits

Parameter	Groundwater Unit – Trigger Level		
	Alluvium	Tertiary	Permian
Physical Parameters/ Sulphate			
Field Electrical Conductivity (µS/cm)	15,993 (1)	22,545 (1)	28,603 (1)
Electrical Conductivity (µS/cm) – DW7068W		22,910 (2)	
Field pH	5.38 – 8.50 (3)	5.38 – 8.50 (3)	5.38 – 8.50 (3)
Sulphate (mg/L)	216 (1)	364 (1)	768 (1)
Sulphate (mg/L) – DW7068W		380 (2)	
Metals/metalloids (dissolved – mg/L)			
Aluminium	0.09 (1)	0.055 (4)	0.06 (1)
Arsenic	0.013 (4)	0.013 (4)	0.017 (1)
Chromium	0.001 (4)	0.001 (4)	0.001 (4)
Cobalt	0.004 (1)	0.004 (1)	0.022 (1)
Copper	0.378 (1)	0.060 (1)	0.095 (1)
Manganese	1.9 (4)	1.9 (4)	1.9 (4)
Molybdenum	0.034 (4)	0.034 (4)	0.056 (1)
Nickel	0.208 (5)	0.328 (5)	0.440 (5)
Selenium (Total)	0.011 (4)	0.011 (4)	0.011 (4)
Zinc	0.475 (1)	0.235 (1)	0.320 (5)

Notes:

1. 95th Percentile of data for each groundwater unit
2. Maximum value recorded in bore DW7068W
3. Lower and upper range of site data
4. ANZG (2018) Aquatic ecosystem protection for moderately disturbed system (95% protection)
5. Hardness modified criteria, based on ANZG (2018) 95% aquatic ecosystem protection trigger

Table E3 – Groundwater level triggers

Groundwater Unit	Trigger level threshold (m) ¹
Alluvium	2m/year
Tertiary	2m/year
Permian	5m/year

¹ Water level triggers have been derived from Section 362 of the *Water Act 2000*.

Schedule F: Water	
Condition number	Condition
F1	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 mining activities, except as permitted under the conditions of this environmental authority.
F2	A Water Management Plan must be developed by an appropriately qualified person within one (1) month of the grant of ML700056 or prior to commencement of mining activities whichever is sooner, and be implemented for all stages of mining activities on the site.
F3	The Water Management Plan required by Condition F2 must: a) Provide for the effective management of actual and potential environmental impacts resultant from water management associated with the mining activities carried out under this environmental authority. b) Be developed by an appropriately qualified person and in accordance with administering authority's current <i>Guideline for preparation of a water management plan for mining activities</i> (ESR/2016/3111), and 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 manage and prevent and/or minimise saline drainage; v) Measures to manage and prevent and/or minimise acid mine drainage; and vi) Contingency procedures for emergencies.
F4	The Water Management Plan required by Condition F2 must be reviewed each calendar year and a report prepared by an appropriately qualified person. The report must: a) Assess the plan against the requirements under Condition F3; b) Include recommended actions and timeframes for these actions to ensure actual and potential environmental impacts are effectively managed for the coming year; and c) Identify any amendments made to the water management plan following the review.
F5	The environmental authority holder must attach to the review report required by Condition F4, a written response to the report and recommended actions and timeframes, detailing the actions taken or to be taken by the environmental authority holder on stated dates: a) To ensure compliance with this environmental authority; and b) To prevent a recurrence of any non-compliance issues identified.
F6	The release of mine affected water to waters is not authorised, except as permitted by Condition F7 .

F7	The release of mine affected water to internal water management infrastructure installed and operated in accordance with a water management plan that complies with Condition F2 to F5 (inclusive) is authorised.
-----------	--

Table F1 – Receiving water upstream background sites and downstream monitoring sites

Description	Latitude (decimal degree, GDA2020)	Longitude (decimal degree, GDA2020)
Upstream Background Monitoring Points		
Springton Ck Upstream (SC1)	-23.6976	149.2738
Charlevue Ck Upstream (CC1)	-23.6473	149.2100
Downstream Monitoring Points		
Springton Ck Downstream (SC2)	-23.6434	149.3145
Charlevue Ck Downstream (CC2)	-23.6305	149.2715

F8	All determinations of water quality monitoring must be performed by an appropriately qualified person.
F9	Receiving Environment Monitoring Program (REMP) The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) within six (6) months of the grant of ML700056 or prior to commencement of mining activities whichever is sooner 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. For the purposes of the REMP, the receiving environment is the waters of Duckworth Creek and connected or surrounding waterways within fifteen (15) kilometres downstream of the release. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.
F10	The REMP must: 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 F1 – Receiving water upstream background sites and downstream monitoring sites); 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 <i>Queensland Water Quality Guidelines 2009</i>. This should include monitoring during periods of natural flow irrespective of mine or other discharges; e) Include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC and ARMCANZ (2000), BATLEY and/or the most recent version of <i>AS5667.1 Water quality - Sampling - Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples</i>); f) Include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivAS methodology; g) Apply procedures and/or guidelines from ANZECC and ARMCANZ (2000) and other relevant guideline documents; h) Describe sampling and analysis methods and quality assurance and control; and i) Incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

F11	A REMP Design Document that addresses the requirements of the REMP must be prepared and made available to the administering authority upon request.
F12	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
F13	Water Reuse Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).
F14	Annual Water Monitoring Report The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format: a) The date on which the sample was taken; b) The time at which the sample was taken; c) The monitoring point at which the sample was taken; d) The measured or estimated daily quantity of mine affected water released from all release points; e) The release flow rate at the time of sampling for each release point; f) The results of all monitoring and details of any exceedances of the conditions of this environmental authority; and g) Water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
F15	Stormwater and Water Sediment Controls An Erosion and Sediment Control Plan must be developed by an appropriately qualified person within one (1) month of the grant of ML700056 or prior to commencement of mining activities whichever is sooner, 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.

F16	Stormwater, 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 <i>Erosion and Sediment Control Plan</i> required by Condition F15; and b) Water management infrastructure that is installed and operated, in accordance with a <i>Water Management Plan</i> that complies with Conditions F3 to F5 (inclusive) for the purpose of ensuring water does not become mine affected water.
------------	--

Schedule G: Sewage treatment	
Condition number	Condition
G1	Treated sewage effluent may only be released to land in compliance with the release limits stated in Table G1 - Contaminant release limits to land and within the nominated area identified in Figure A1 - Approved Disturbance Area .

Table G1 - Contaminant release limits to land

Contaminant	Unit	Release limit	Limit type	Frequency
Electrical conductivity	µs/cm	1600	Maximum	Monthly
Total suspended solids	mg/L	20	Maximum	Monthly
Nitrogen	mg/L	30	Maximum	Monthly
Phosphorus	mg/L	10	Maximum	Monthly
Total residual chlorine (if used for disinfection)	mg/L	1	Maximum	Monthly
E.coli	Organisms/100ml	<1000	Maximum	Monthly
pH	pH units	5.0 – 8.5.	Range	Monthly

G2	The application of treated effluent to land must be carried out in a manner such that: (1) vegetation is not damaged (2) there is no surface ponding of effluent (3) there is no run-off of effluent.
G3	If areas irrigated with effluent are accessible to employees or the general public, prominent signage must be provided advising that effluent is present and care should be taken to avoid consuming or otherwise coming into unprotected contact with the effluent.

G4	All sewage effluent released to land must be monitored at the frequency and for the parameters specified in Table G1 - Contaminant release limits to land .
G5	The daily volume of effluent released to land must be measured and recorded.
G6	When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, the treated effluent must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.
G7	A minimum area of 3.8 hectares of land, excluding any necessary buffer zones, must be utilised for the irrigation and/or beneficial reuse of treated sewage effluent.

Schedule H: Land and Rehabilitation	
Condition number	Condition
H1	Land disturbed by mining must be rehabilitated to a landform that is safe, stable, non-polluting and able to sustain the land use specified in Table H1 – Rehabilitation domains and post-mining land use and Figure H1 – Post-mining land use areas .

Table H1 – Rehabilitation domains and post-mining land use

Rehabilitation Functional Area	Post-mining Land Use	Footprint Area (ha)	Proportion of Total Disturbance
In-pit and out-of-pit waste emplacements, including dry rejects disposal areas	Grazing	722.4	37%
Temporary waste emplacements	Grazing	17.5	1%
Final void waterbody	Fauna habitat	76.5	4%
Residual void highwalls	Native vegetation supporting fauna habitat	133.1	7%
Residual void low walls	Grazing	187.2	9%
Mine infrastructure areas ¹	Grazing	750.8	38%
Water management infrastructure ¹	Grazing/ Native vegetation	85	4%

Notes: 1 Where not retained under a landholder agreement allocating infrastructure responsibility.

H2	Chemical and Flammable or Combustible Liquids All flammable and combustible liquids must be contained within an onsite containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current edition of <i>AS1940 The storage and handling of flammable and combustible liquids</i>.
H3	All explosive, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the relevant Australian Standards.
H4	Spills Any spills or release of flammable and combustible liquids; or chemicals, must be controlled in a manner that prevents environmental harm.
H5	An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes, chemicals and flammable and combustible liquids associated with the activity must be kept at the site.
H6	Anyone operating with wastes, chemicals or flammable and combustible liquids under this approval must be trained in the use of the spill kit.
H7	Infrastructure All infrastructure constructed by, or for, the environmental authority holder during the licensed activities include water storages, must be removed from the site prior to surrender, except where agreed in writing by the post mining landowner. Note: <i>This is not applicable where the landowner/holder is also the environmental authority holder.</i>
H8	Vegetation management Cleared vegetation from the site must be managed in accordance with the following hierarchy: a) recycle, e.g. mulching of vegetation and use in rehabilitation on the site; and b) other alternative management options implemented in a way that causes the least amount of environmental harm.

Schedule I: Offsets and biodiversity	
Condition number	Condition
I1	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the <i>Environmental Offsets Act 2014</i> unless the impacts are specified in Table I2 – Significant residual impacts to prescribed environmental matters.
I2	Records demonstrating that each impact to a prescribed environmental matter not listed in Table I2 – Significant residual impacts to prescribed environmental matters did not, or is not likely to, result in a significant residual impact to that matter must be: (a) completed by an appropriately qualified person; and (b) kept for the life of the environmental authority.

I3	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and Queensland Environmental Offsets Policy, as amended from time to time, must be undertaken for the maximum extent of impact to each prescribed environmental matter authorised in Table I2 – Significant residual impacts to prescribed environmental matters , unless a lesser extent of the impact has been approved in accordance with Condition I6 .
-----------	---

Table I2 - Significant residual impacts to prescribed environmental matters

Prescribed environmental matter	Description		Stage 1 impact (ha)		Maximum extent of impact (ha)		Location of impact
Regulated vegetation	Of concern regional ecosystem	RE 11.3.2	2.53		2.64		Figure I1
	Regional ecosystems within a defined distance of a vegetation management watercourse	RE 11.5.2	33.82	42.15	35.03	52.93	Figure I2
		RE 11.3.2	0.20		0.20		
		RE 11.7.2	4.06		12.30		
		RE 11.3.25	4.07		5.40		
Connectivity areas		RE 11.3.2	2.53	439.25	2.64	715.32	Figure I3
		RE 11.3.25	6.76		10.62		
		RE 11.5.2	353.57		387.99		
		RE 11.7.2	76.38		314.07		

I4	Staged impacts The significant residual impacts to a prescribed environmental matter authorised in Condition I1, for which an environmental offset is required by Condition I3, may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.
I5	Prior to the commencement of each stage, a report completed by an appropriately qualified person, that includes an analysis of the following, must be provided to the administering authority: (a) for the forthcoming stage—the estimated significant residual impacts to each prescribed environmental matter; and (b) for the previous stage, if applicable—the actual significant residual impacts to each prescribed environmental matter, to date.
I6	The report required by Condition I5 must be approved by the administering authority before a notice of election for the forthcoming stage, if applicable, is given to the administering authority.
I7	A notice of election for the staged environmental offset referred to in Condition I6, if applicable, must be provided to the administering authority no less than three (3) months before the proposed commencement of that stage, unless a lesser timeframe has been agreed to by the administering authority.
I8	Within six (6) months from the completion of the final stage of the project, a report completed by an appropriately qualified person that includes the following matters, must be provided to the administering authority: (a) an analysis of the actual impacts on prescribed environmental matters resulting from the final stage; and (b) if applicable, a notice of election to address any outstanding offset debits for the authorised impacts.

Schedule J: Dams and levees	
Condition number	Condition
J1	Assessment of consequence category The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/19335) at the following times: a) prior to the design and construction of the structure, if it is not an existing structure; or b) prior to any change in its purpose or the nature of its stored contents.
J2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.

J3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/19335)</i> .
J4	Conditions J5 to J9 inclusive do not apply to existing structures.
J5	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 (ESR/2016/1933)</i> .
J6	Construction of a regulated structure is prohibited unless: a) the holder has submitted a consequence category assessment report and certification to the administering authority; and b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
J7	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 (ESR/2016/1933)</i> , and must be recorded in the Register of Regulated Structures.
J8	Regulated structures must: a) be designed and constructed in compliance with the <i>Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)</i>; b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: - i floodwaters from entering the regulated dam from any watercourse or drainage line; and - ii wall failure due to erosion by floodwaters arising from any watercourse or drainage line.
J9	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure b) construction of the regulated structure is in accordance with the design plan.
J10	Notification of affected persons All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure a) for existing structures that are regulated structures, within ten (10) business days of this condition taking effect; b) prior to the operation of the new regulated structure; and c) if the emergency action plan is amended, within five (5) business days of it being amended.

J11	Operation of a regulated structure Operation of a regulated structure is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following: a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with Condition J6; b) a set of 'as constructed' drawings and specifications; c) certification of the 'as constructed drawings and specifications' in accordance with Condition J9; d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; e) the requirements of this authority relating to the construction of the regulated structure have been met; f) the holder has entered the details required under this authority, into a Register of Regulated Structures; and g) there is a current operational plan for the regulated structure.
J12	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.
J13	Mandatory reporting level Conditions J14 to J17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
J14	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
J15	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
J16	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.
J17	The holder must record any changes to the MRL in the Register of Regulated Structures.
J18	Design storage allowance The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.
J19	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).

J20	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.
J21	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.
J22	Annual inspection report Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
J23	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.
J24	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 (ESR/2016/1933)</i> .
J25	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.
J26	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.
J27	Register of Regulated Structures A Register of Regulated Structures must be established and maintained by the holder for each regulated structure :
J28	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
J29	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with Condition J11 and Condition J12 has been achieved.

J30	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
J31	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
J32	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

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.

“**Term**” or “**acronym**” means <definition>

Acid rock drainage means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture.

Administering authority is the agency or department that administers the environmental authority provisions under the Environmental Protection Act 1994

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

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

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 an environmental authority or a development approval.

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.

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

Certification 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'.

Chemical means:

- (a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth), or
- (b) a dangerous good under the *Australian Code for the Transport of Dangerous Goods by Road and Rail approved by the Australian Transport Council*, or
- (c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*, or
- (d) a drug or poison in the *Standard for the Uniform Scheduling of Drugs and Poisons* prepared by the Australian Health Ministers' Advisory Council and published by the Commonwealth, or
- (e) any substance used as, or intended for use as:
 - i. a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product, or
 - ii. a surface active agent, including, for example, soap or related detergent, or
 - iii. a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide, or
 - iv. a fertiliser for agricultural, horticultural or garden use, or
 - v. a substance used for, or intended for use for mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater, or
 - vi. manufacture of plastic or synthetic rubber.

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.

Consecutive sampling occasions means sampling undertaken in successive sequence in accordance with the frequency specified in the conditions of the environmental authority, but excludes repeat sampling for the purposes of validating sampling errors including that of Condition E6.

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

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

Dam means a land-based structure or a void that 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).

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

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

- (a) required information under a functional design
- (b) the location, function and description of geomorphic and riparian vegetation features within the proposed watercourse diversion
- (c) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion
- (d) a revegetation and vegetation management plan (a revegetation plan) for the diversion
- (e) engineering drawings depicting the physical attributes and dimensions of the diversion
- (f) (if relevant) the staged development of a permanent watercourse diversion including the proposed use of temporary watercourse diversions with identified lifespans
- (g) all investigation and other reports relied on by the design
- (h) plans and specifications sufficient to complete construction and revegetation in accordance with the design.

Designated precinct has the meaning in Part 5 section 15(3) of the Regional Planning Interests Regulation 2014 and means:

- for a strategic environmental area mentioned in section 4(1) – the area identified as a designated precinct on the strategic environmental area map for the strategic environmental area; or
- if a strategic environmental area is shown on a map in a regional plan – the area identified on the map as a designated precinct for the strategic environmental area.

Design storage allowance or DSA means an available volume, estimated in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933¹³)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability (AEP)** specified in that Manual.

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

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

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.

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

- (a) areas off lease (e.g. roads or tracks which provide access to the mining lease)
- (b) areas previously disturbed which have achieved the rehabilitation outcomes
- (c) by agreement with the administering authority, areas previously disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions)
- (d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner
- (e) disturbance that pre-existed the grant of the tenure.

EC means electrical conductivity.

Effluent means treated waste water released from sewage treatment plants.

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

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

Equilibrium means a state where 'balance' is achieved despite changing variables.

Existing authority has the meaning in section 94 of the *Environmental Offsets Act 2014*.

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

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

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

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

- a) geomorphic and vegetation assessment of the existing watercourse
- b) hydrologic conditions of the existing watercourse

- c) the proposed watercourse diversion route
- d) results from hydrologic, hydraulic and sediment transportation modelling used in the design of the diversion.

Functionality: the purpose that something is designed or expected to fulfil.

Hazard category means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*.

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

Hydraulic performance means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193314).

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

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

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

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

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

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

Mandatory reporting level or **MRL** means a warning and reporting level determined in accordance with the criteria in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193314) published by the administering authority.

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

Matters of state environmental significance (MSES) means the following natural values and areas:

- a) protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*
- b) 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zones under the *Marine Parks Act 2004*.
- c) areas within declared fish habitat areas that are management A areas or management B areas under the *Fisheries Regulation 2008*
- d) a designated precinct, in a strategic environmental area under the Regional Planning Interests Regulation 2014, schedule 2, part 5, s15(3)
- e) wetlands in a wetland protection area or wetlands of high ecological significance shown on the map of referable wetlands under the Environmental Protection Regulation 2008
- f) wetlands and watercourses in high ecological value waters identified in the Environmental Protection (Water) Policy 2009, schedule 1
- g) legally secured offset areas as defined under the *Environmental Offsets Act 2014*.

- h) threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the *Nature Conservation (Wildlife) Regulation 2006*
- i) marine plants under the *Fisheries Act 1994* (excluding marine plants in an urban area)
- j) waterways that provide for fish passage under the *Fisheries Act 1994* (excluding waterways providing for fish passage in an urban area)
- k) high risk area on the flora survey trigger map as described in the *Environmental Offsets Regulation 2014*, schedule 2, part 6(1)
- l) regulated vegetation under the *Vegetation Management Act 1999* that is:
 - i) category B areas on the regulated vegetation management map, that are 'endangered' and 'of concern' regional ecosystems
 - ii) category C areas on the regulated vegetation management map that are 'endangered' and 'of concern' regional ecosystems
 - iii) category R areas on the regulated vegetation management map
 - iv) areas of essential habitat on the essential habitat map for wildlife prescribed as 'endangered wildlife' or 'vulnerable wildlife' under the *Nature Conservation Act 1992*
 - v) category A, B, C or R areas on the regulated vegetation management map that are located within a defined distance from the defining banks of a relevant watercourse identified on the vegetation management watercourse and drainage feature map
 - vi) category A, B, C or R areas on the regulated vegetation management map that are located within a wetland or within 100 metres from the defining bank of a wetland identified on the vegetation management wetlands map.

Maximum extent of impact means the total, cumulative, residual extent and duration of impact to a prescribed environmental matter that will occur over a project's life after all reasonable avoidance and reasonable on-site mitigation measures have been, or will be, undertaken.

Measures includes any measures to prevent or minimise environmental impacts of the mining activity such as bunds, silt fences, diversion drains, capping, and containment systems.

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.

Mining activity means

- (a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*;
- (b) all environmentally relevant activities authorised under this environmental authority;
- (c) all mining disturbance including construction of infrastructure, overburden removal and active mining;
- (d) all care and maintenance;
- (e) exploration; and
- (f) rehabilitation.

Modification or modifying (see definition of 'construction')

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

NATA means National Association of Testing Authorities, Australia.

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

Non polluting means having no adverse impacts upon the receiving environment.

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

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).

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

Pre-existing watercourse is the section of watercourse from which the flow of water will be diverted as a result of the construction and operation of a watercourse diversion.

Prescribed environmental matters has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to the matters of State environmental significance listed in schedule 2 of the Environmental Offsets Regulation 2014.

Protected area' means – a protected area under the *Nature Conservation Act 1992*, or

- (a) a marine park under the *Marine Parks Act 1992*, or
- (b) a World Heritage Area.

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/2016/193315)*;
- (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- (f) For the regulated dam, other than in relation to any levees –
 - i The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
 - ii Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
 - iii Dam crest volume (megalitres);
 - iv Spillway crest level (metres AHD).
 - v Maximum operating level (metres AHD);
 - vi Storage rating table of stored volume versus level (metres AHD);
 - vii Design storage allowance (megalitres) and associated level of the dam (metres AHD);
 - viii Mandatory reporting level (metres AHD);
- (g) The design plan title and reference relevant to the dam;
- (h) The date construction was certified as compliant with the design plan;
- (i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan;
- (j) Details of the composition and construction of any liner;
- (k) The system for the detection of any leakage through the floor and sides of the dam;
- (l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- (m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- (n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

Regulated structure means any structure in the significant or high consequence category as assessed using the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/193315)* published by the administering authority. A regulated structure does not include:

- a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container;
- a sump or earthen pit used to store residual drilling material and drilling fluid only for the duration of drilling and well completion activities;
- a flare pit.

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

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 vegetation 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.

RL means reduced level, relative to mean sea level as distinct from depths to water.

Saline drainage means the movement of waters, contaminated with salts, as a result of the mining activity.

Self-sustaining means not requiring on-going intervention and maintenance to maintain functional riverine processes and characteristics

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 & retail activity, protected area or an area identified under a conservation plan under *Nature Conservation Act 1992* as a critical habitat or an area of major interest, marine park under *Marine Parks Act 2004*, park or garden that is outside of the mining lease and open to the public for the use other than for sport or organised entertainment. A commercial place is inside or outside a commercial or retail activity.

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

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

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

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

Strategic environmental areas has the meaning in section 11(1) of the *Regional Planning Interest Act 2014*.

Structure means dam or levee.

Suitably qualified and experienced person in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:

- for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design
- for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

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

The Act means the *Environmental Protection Act 1994*.

Void means any constructed, open excavation in the ground.

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

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

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

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.

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

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

APPENDICES

Figure A1 - Approved Disturbance Area

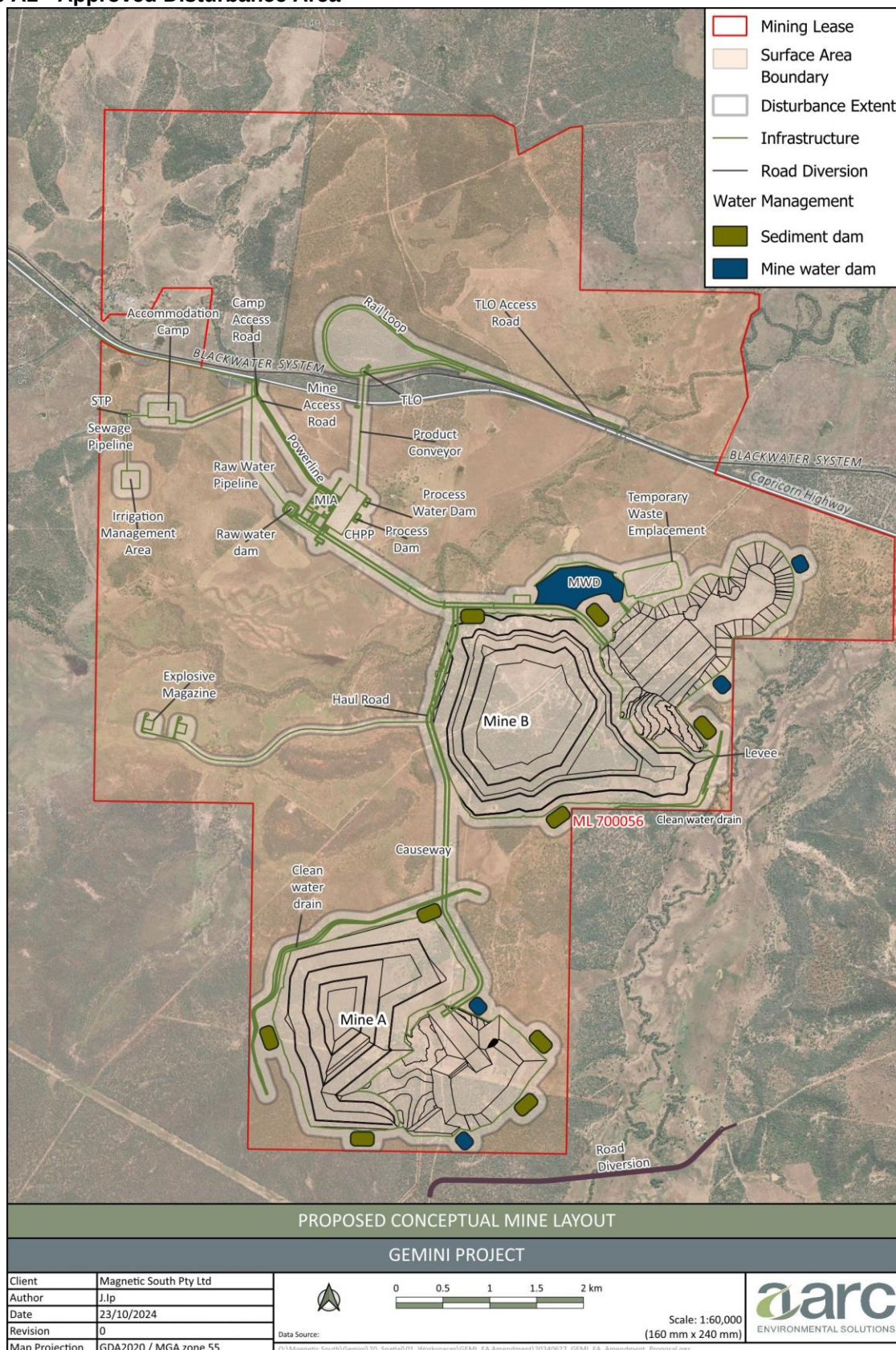


Figure B1 – Noise and Air Quality Monitoring Locations

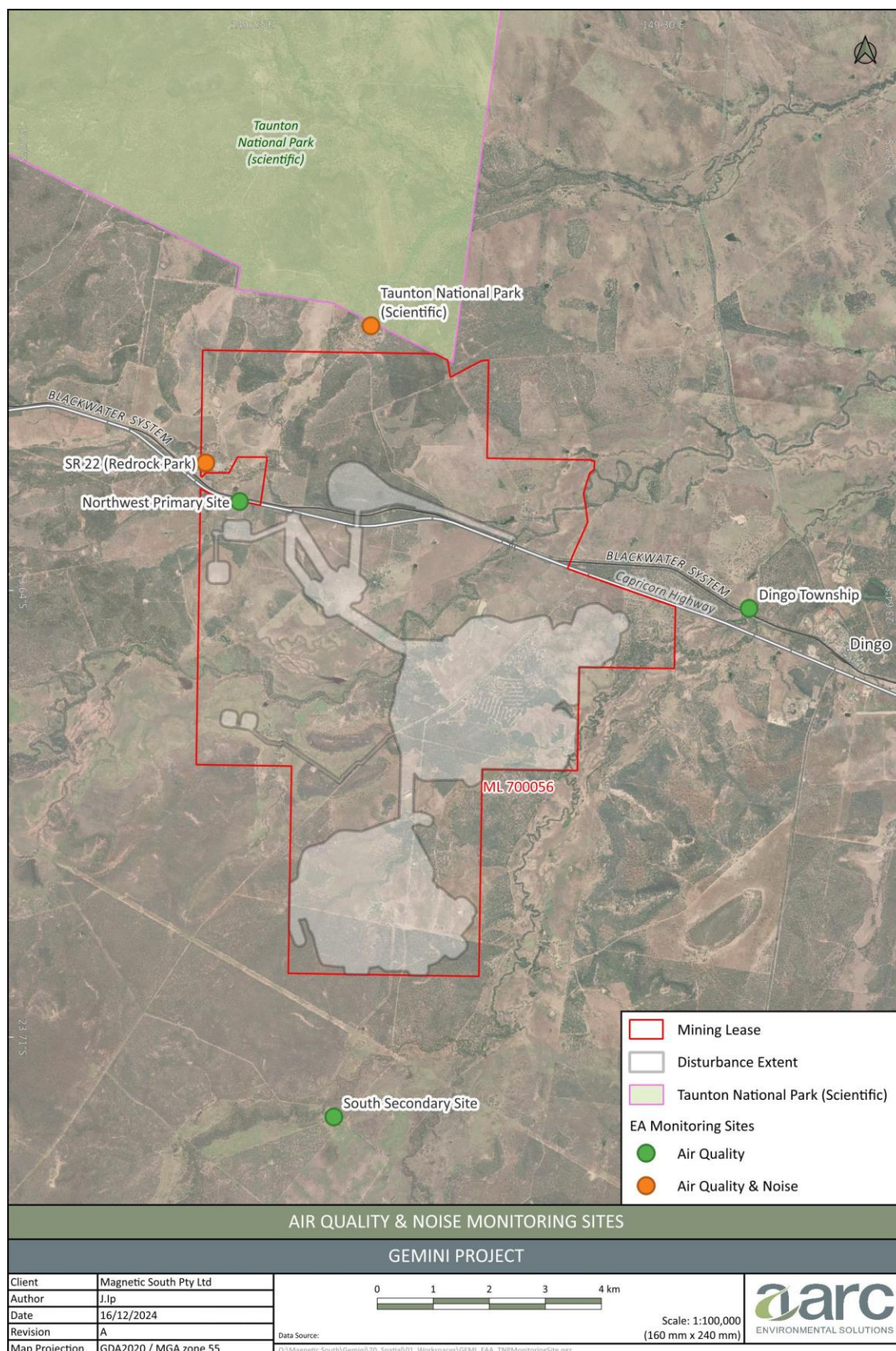


Figure E1 – Groundwater and surface water monitoring locations

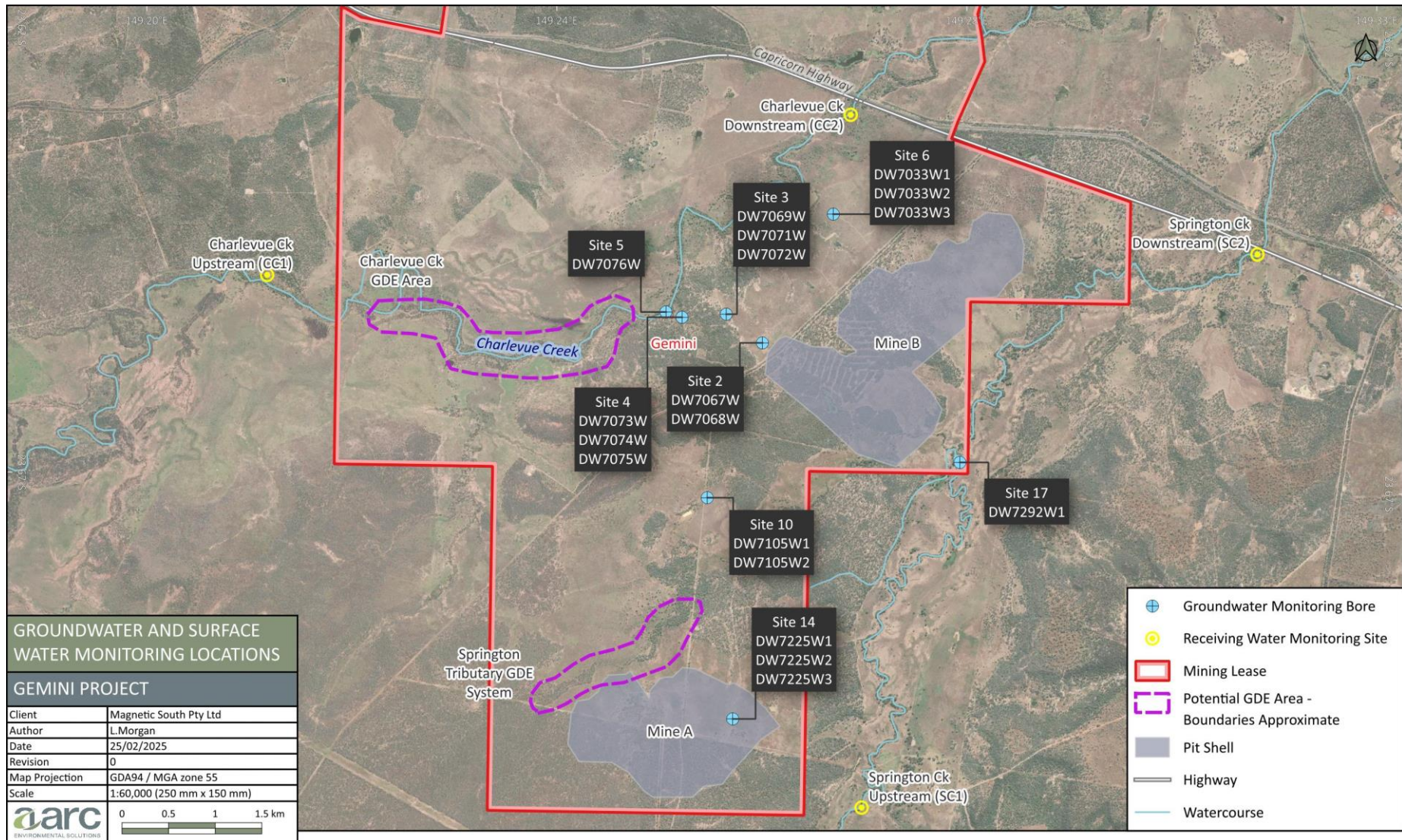


Figure H1 - Post-mining land use areas

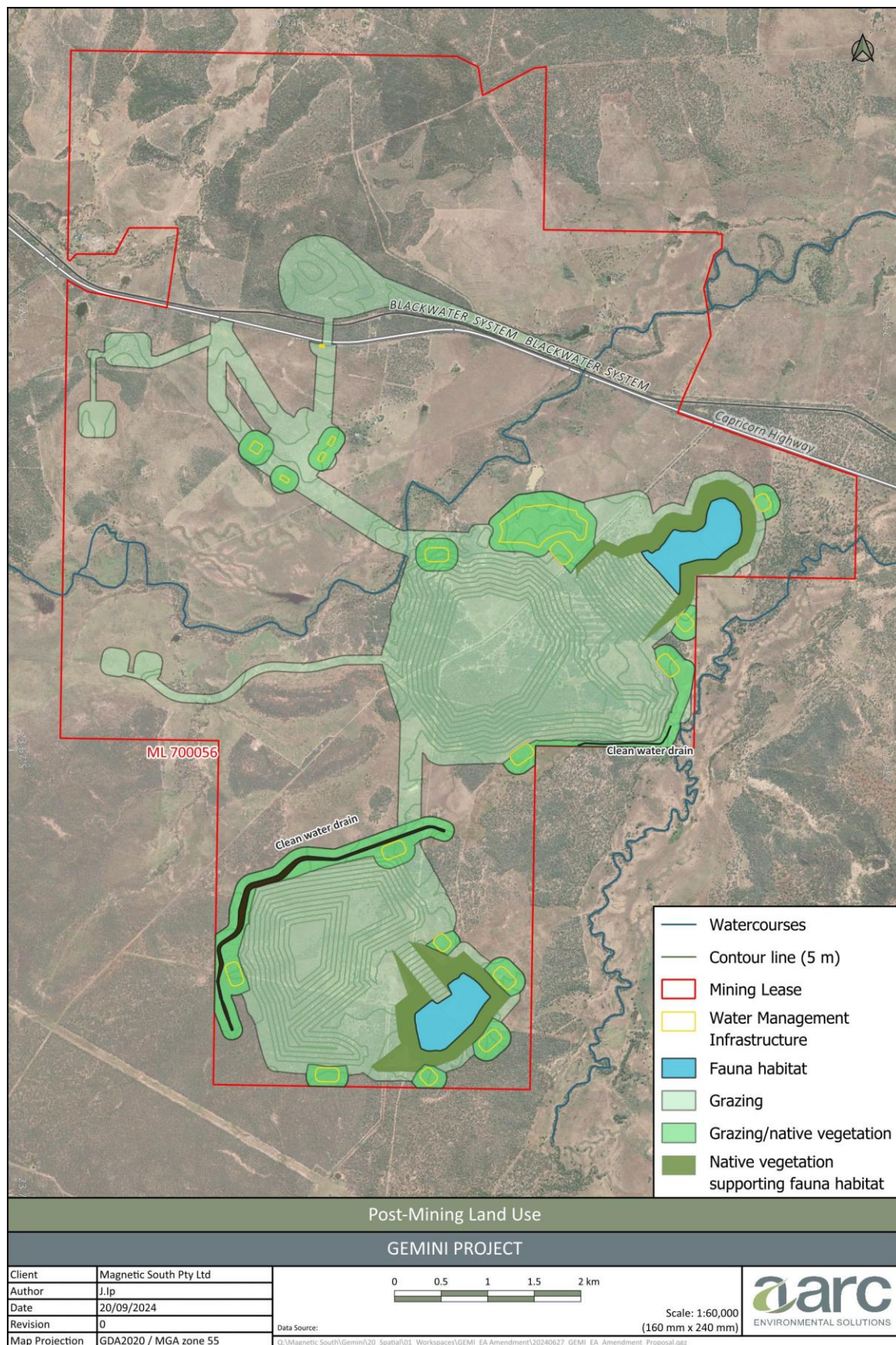


Figure I1 - Regulated Vegetation (Of Concern Regional Ecosystem (RE))

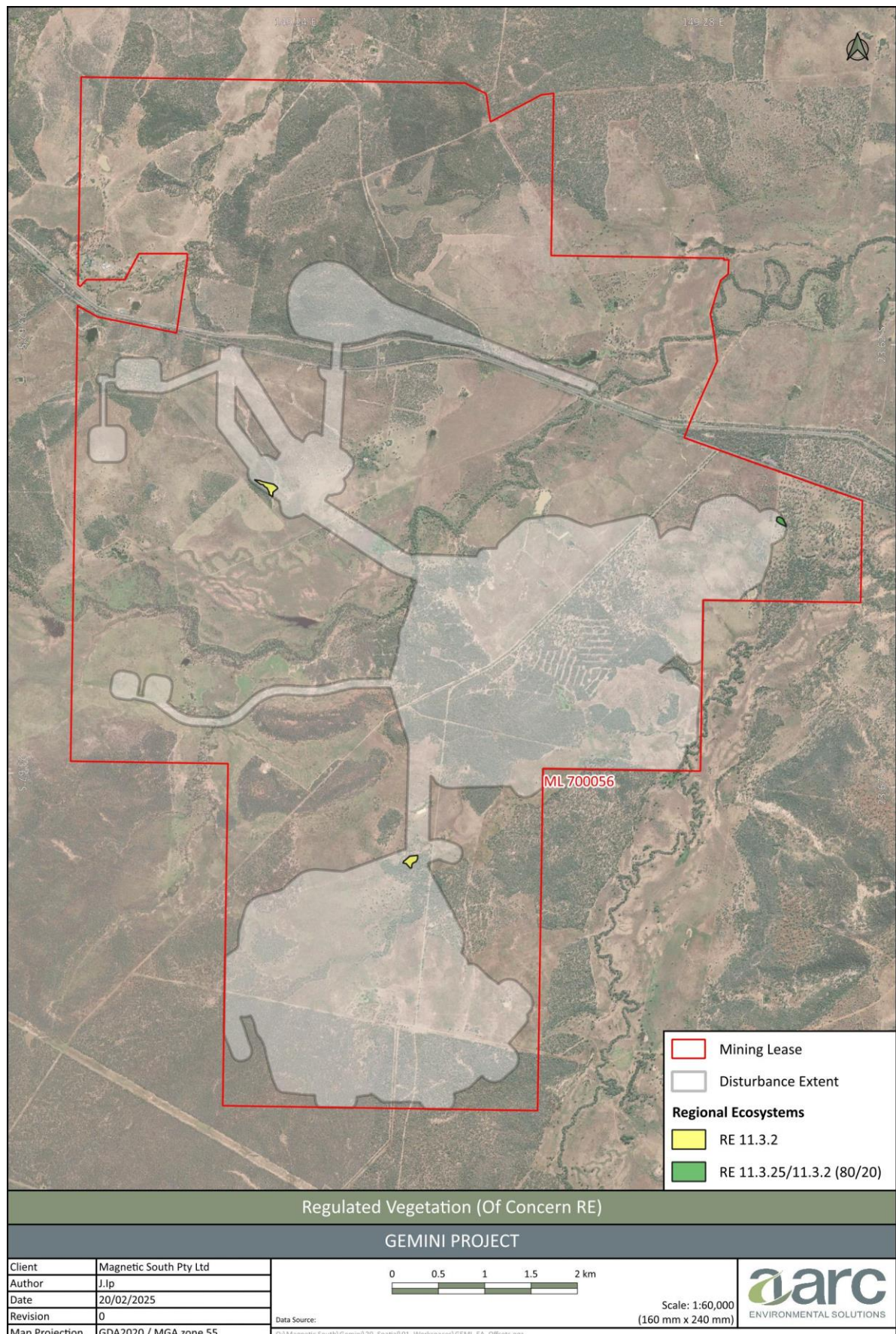


Figure I2 - Regulated vegetation (RE within a defined distance to a Vegetation Management Act 1999 watercourse)

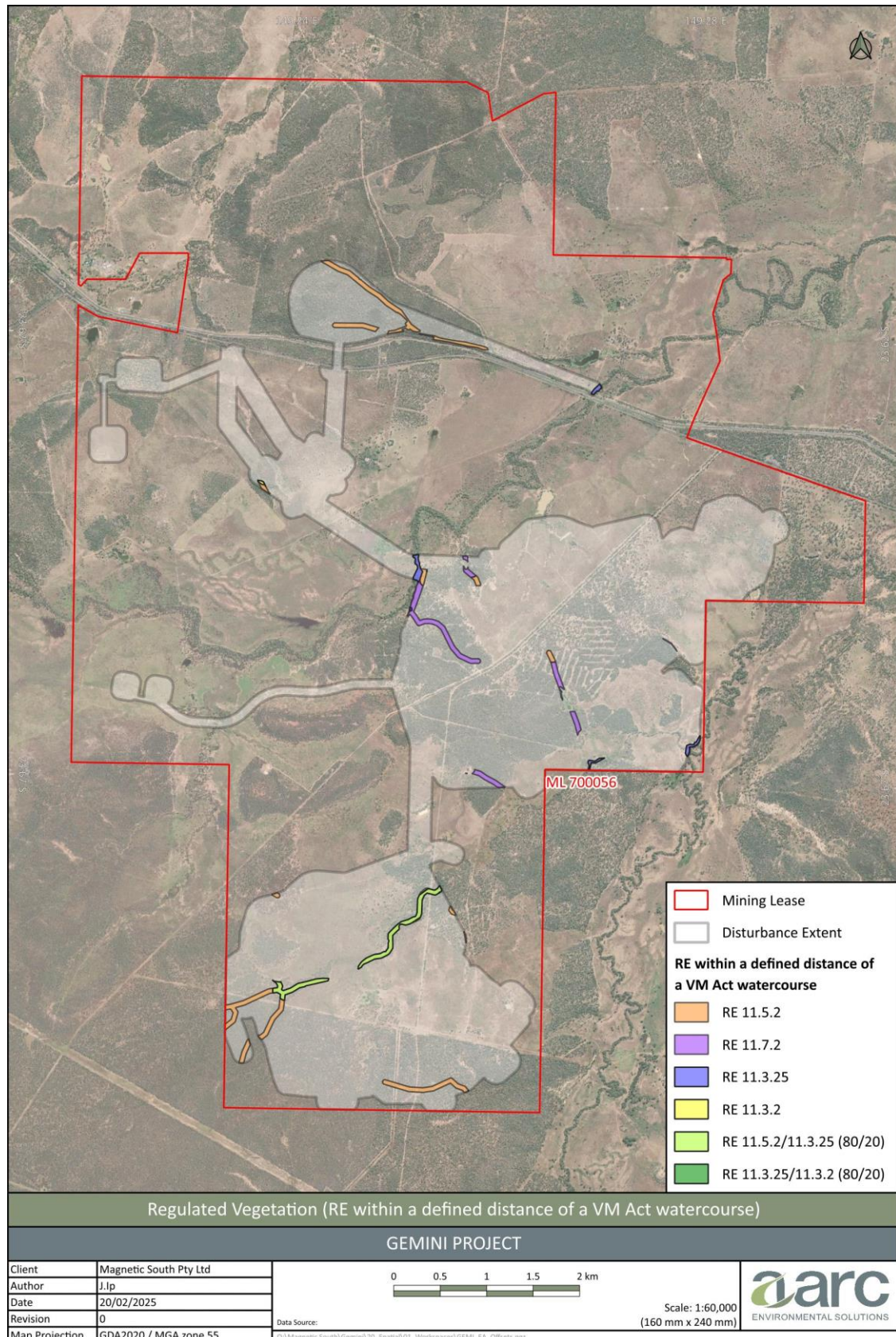
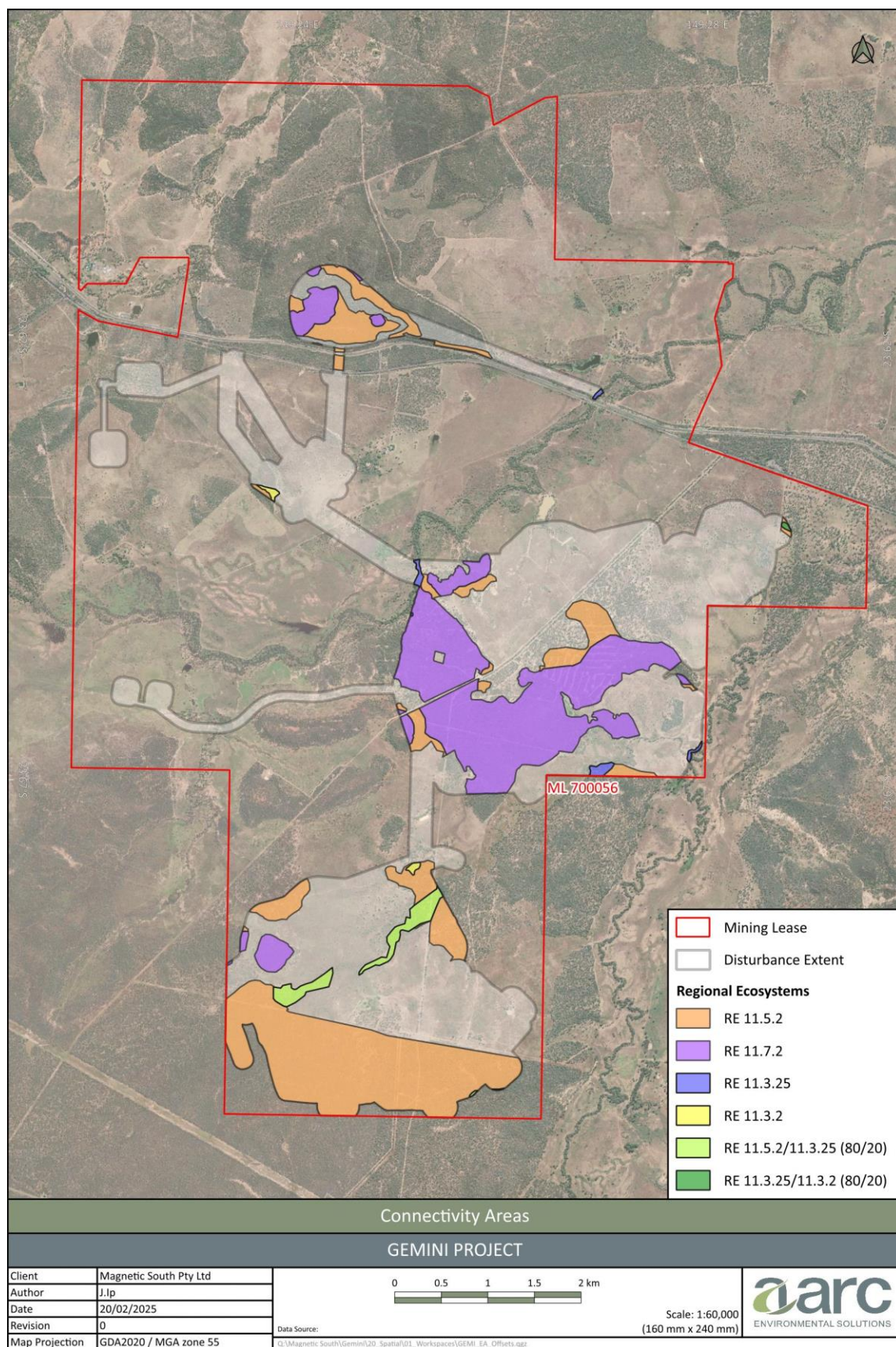


Figure I3 – Connectivity areas



END OF ENVIRONMENTAL AUTHORITY