

Permit

Environmental Protection Act 1994

Environmental authority EPML00661913

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

Environmental authority number: EPML00661913

Environmental authority takes effect on 31 July 2024

Environmental authority holder(s)

Name(s)	Registered address
HAIL CREEK COAL HOLDINGS PTY LIMITED	Level 44, 1 Macquarie PI SYDNEY NSW 2000 Australia
SUMISHO COAL DEVELOPMENT QUEENSLAND PTY LTD	Level 3 West Tower, 410 Ann Street BRISBANE QLD 4001
MARUBENI COAL PTY LTD	Level 7 Comalco Place, 12 Creek Street BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 3 – 13: Mining black coal	ML4738 and ML700026
Ancillary Activity, Schedule 2 – 08: Chemical storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML4738
Ancillary Activity, Schedule 2 – 31: Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t.	ML4738
Ancillary Activity, Schedule 2 – 60: Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a), (d) more than 200,000t.	ML4738

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Environmentally relevant activity/activities	Location(s)
Ancillary Activity, Schedule 2 – 63: Sewage treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (b-ii) more than 100 but not more than 1500EP otherwise	ML4738

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).

Contaminated land

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

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

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

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

Take effect

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

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

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Sustainable Planning Act 2009* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

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



Signature

31 July 2024

Date

Dr Alison Cummings
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required (include for all environmental authorities)

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).

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Conditions of environmental authority

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

- Schedule A: General;
- Schedule B: Air;
- Schedule C: Waste;
- Schedule D: Noise;
- Schedule E: Groundwater;
- Schedule F: Water;
- Schedule G: Sewage treatment;
- Schedule H: Land;
- Schedule I: Regulated structures;
- Schedule J: Nature conservation and biodiversity;
- Definitions
- Figures

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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	This environmental authority authorises the mining of a maximum of 20 million tonnes run of mine (ROM) coal per annum .
A3	In carrying out the mining activity authorised by this environmental authority, disturbance of land: <ul style="list-style-type: none"> (a) may occur in the areas marked 'A'; (b) must not occur in the areas marked 'B'; and (c) may occur in the areas marked 'C', 'D' and 'E' as depicted in the maps in Schedule 1 – Figure 2a and Figure 2b to this environmental authority, but only in accordance with condition A4.
A4	Any disturbance within the area marked 'C', 'D' and E as depicted in the maps in Schedule 1 – Figure 2a and Figure 2b to this environmental authority: <ul style="list-style-type: none"> (a) is only authorised as a result of exploration activities and for the construction of groundwater or surface water monitoring sites; (b) is limited to a maximum of 328 exploration drill sites, 126 geotechnical drill sites, 140 geotechnical test pits and 7.06 km for seismic lines for the area marked 'C – Authorised Exploration Western Area'; and associated access tracks; (c) is limited to a maximum of 29 drillholes for the area marked 'D – Authorised Exploration Exevale North' and (d) Is limited to a maximum of 31 drill sites and associated access tracks for the area marked 'E – Authorised Site Exploration'.
A5	Monitoring Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five (5) years .
A6	Upon request from the administering authority, copies of monitoring results, records, registers, management plans and reports required by the conditions of this environmental authority must be made available and provided to the administering authority within ten (10) business days or an alternative timeframe agreed between the administering authority and the environmental authority holder.
A7	The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management

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	(ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management.
A8	<p>Notification of emergencies, incidents and exceptions</p> <p>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.</p>
A9	<p>Within ten (10) business days following the initial notification under condition A8 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:</p> <ul style="list-style-type: none"> (a) results and interpretation of any samples taken and analysed; (b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and (c) proposed actions to prevent a recurrence of the emergency or incident.
A10	<p>Complaints</p> <p>The holder of this environmental authority must record all environmental complaints received about the mining activities including:</p> <ul style="list-style-type: none"> (a) name, address and contact number for of the complainant; (b) time and date of complaint; (c) reasons for the complaint; (d) investigations undertaken; (e) conclusions formed; (f) actions taken to resolve the complaint; (g) any abatement measures implemented; and (h) person responsible for resolving the complaint.
A11	<p>The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.</p>

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A12	<p>Third-party reporting</p> <p>The holder of this environmental authority must:</p> <ul style="list-style-type: none"> (a) within one (1) year of 10 July 2018 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 (3) 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.
A13	<p>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:</p> <ul style="list-style-type: none"> (a) comply with the amended or changed standard, policy or guideline within two (2) years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in conditions I1 to I40, the time specified in those conditions; 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.
Schedule B: Air	
Condition number	Condition
B1	Unless authorised by this environmental authority, the release of contaminants to air must not cause environmental harm or an exceedance of the limits in <i>Table A1 – Ambient air quality limits</i> at a sensitive or commercial place.
B2	<p>The measurement of air emissions for a sensitive place or commercial place is either:</p> <ul style="list-style-type: none"> a) at that place (if measured there); or b) at the monitoring location representative (whether by reason of correlation or otherwise) of the sensitive place or commercial place (where there is no measure at the sensitive place or commercial place).
B3	<p>When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), air quality monitoring must be undertaken, and the results thereof notified to the administering authority within 14 days following completion of monitoring.</p> <p>Monitoring must be carried out at a place or places relevant to the potentially affected sensitive place as agreed upon with the administering authority.</p>

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B4	<p>Dust and particulate matter monitoring</p> <p>Air emissions and meteorological conditions must be monitored in accordance with Table B1 – Ambient air quality limits.</p>
B5	<p>Air quality monitoring exceedance</p> <p>If monitoring indicated the potential for exceedance of the relevant limits in Table A1 – Ambient air quality limits, then the environmental authority holder must immediately implement dust abatement measures to avoid exceeding the relevant limits; or address the complaint using dispute resolution if required.</p>
B6	<p>Where monitoring identifies instances where a concentration specified in Table A1 – Ambient air quality limits is exceeded at any sensitive place or commercial place, the environmental authority holder must report to the administering authority within ten (10) business days:</p> <ul style="list-style-type: none"> a) the air quality data at the sensitive place or commercial place; b) a description of meteorological conditions recorded in accordance with Table A1 – Ambient air quality limits occurring at the time; c) the air quality data upwind of the mining activities (if known); d) measures taken to reduce dust generated by the mining activities; and e) the contribution of the mining activities to the concentration of the exceeded air quality indicator(s) at the sensitive or commercial place.

Table B1 – Ambient air quality limits

Air Quality indicator	Air quality limit	Averaging period	Monitoring method
Particulate matter less than 10µm in aerodynamic diameter (PM ₁₀)	50 µg/m ³	24-hour	<ol style="list-style-type: none"> 1. Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air — Determination of suspended particulate matter— PM₁₀ high volume sampler with size selective inlet – Gravimetric method; 2. Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air — Determination of suspended particulate matter — PM₁₀ low volume sampler — Gravimetric method; or 3. Australian Standard AS3580.9.11 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM₁₀ beta attenuation monitors
Dust deposition	120 mg/m ² /day	Monthly	Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air— Determination of particulate matter — Deposited matter –Gravimetric method

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Total suspended particulate matter (TSP)	90 µg/m ³	1 year	AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method
Weather including: a) Wind speed and direction b) Temperature c) Precipitation d) Relative humidity	NA		AS/NZS 3850.14:2014

Schedule C: Waste	
Condition number	Condition
C1	Waste, other than vegetation waste, must not be burned or allowed to be burned on the mining leases unless approved by the administering authority prior to burning.
C2	Waste, other than any spoil, rejects, tailings, overburden, tyres, construction and demolition waste, and vegetation removed as part of the mining activity, must not be disposed of within the mining leases listed on this environmental authority.
C3	<p>Tailings disposal</p> <p>Tailings must be managed in accordance with procedures contained within the tailings management plan. These procedures must include provisions for:</p> <ul style="list-style-type: none"> (a) containment of tailings; (b) the management of seepage and leachates both during operation and the foreseeable future; (c) the control of fugitive dust emissions to air; (d) a program of progressive sampling and characterisation to identify acid producing potential and metal concentrations of tailings; (e) maintaining records of the relative locations of any other waste stored within the tailings; (f) rehabilitation strategy; and (g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid mine drainage, erosion minimisation and establishment of vegetation cover.

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Schedule D: Noise	
Condition number	Condition
D1	<p>Noise Limits</p> <p>The holder of this environmental authority must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that noise generated by the mining activities does not exceed the limits in Table D1 – Noise limits at any sensitive place or commercial place.</p>
D2	<p>Airblast overpressure nuisance</p> <p>The holder of this environmental authority must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that blasting does not cause the limits for peak particle velocity and air blast overpressure in Table D2 – Blasting noise limits to be exceeded at a sensitive place or commercial place.</p>
D3	<p>Noise complaints</p> <p>When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), noise monitoring must be undertaken, and the results thereof notified to the administering authority within 14 days following completion of monitoring.</p> <p>Monitoring must be carried out at a place or places relevant to the potentially affected noise sensitive place as agreed upon with the administering authority.</p>
D4	<p>If investigations determine that an exceedance of the limits in Table D1 – Noise limits or Table D2 – Blasting noise limits is being caused by the holder of this environmental authority, abatement measures must be implemented so that impacts do not result in further exceedances or address the complaint using dispute resolution if required.</p>

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Table D1 – Noise limits

Sensitive Place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and Public Holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
LAeq, adj, 15 mins Fort Cooper Homestead	35	31	30	33	34	30
LAeq, adj, 15 mins Location L1 Carrinyah Station and all other locations	46	40	27	45	40	25
LA1, adj, 15 mins Fort Cooper Homestead	40	36	30	38	39	30
LA1, adj, 15 mins Location L1 Carrinyah Station and all other locations	51	45	32	50	37	30
Commercial Place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and Public Holidays		
	7am to 6pm	6pm to 10pm	10pm to 7am	7am to 6pm	6pm to 10pm	10pm to 7am
LAeq, adj, 15 mins Fort Cooper Homestead	40	36	30	33	39	30
LAeq, adj, 15 mins Location L1 Carrinyah Station and all other locations	51	45	32	44	37	30

Table D2 – Blasting noise limits

Blasting noise limits	Sensitive or commercial place blasting noise limits observed during daylight hours	Sensitive or commercial place blasting noise limits observed during non-daylight hours
Airblast overpressure	115 dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No blasting
Ground vibration peak particle velocity	5mm/second peak particle velocity for 9 out of 10 consecutive blasts and not greater than 10 mm/second peak particle velocity at any time	No blasting

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Schedule E: Groundwater	
Condition number	Condition
E1	The holder of this environmental authority must not release contaminants to any waters, including groundwater.
E2	Monitoring and sampling must be carried out in accordance with the requirements of the latest version of the following documents unless otherwise approved by the administering authority: <ul style="list-style-type: none"> (a) Monitoring and Sampling Manual: Environmental Protection (Water) Policy, Department of Environment and Science, 2018; (b) Groundwater Sampling and Analysis – A Field Guide (2009:27 GeoCat#6890.1); (c) Australian Standard AS/NZS 5667.11:1998 Water quality—Sampling - Part 11: Guidance on sampling of groundwaters; and (d) Guideline for the Environmental Assessment of Subterranean Aquatic Fauna, Department of Science, Information Technology and Innovation, 2015.
E3	All determinations of groundwater quality monitoring must be performed by an appropriately qualified person.
E4	<p>Groundwater Monitoring</p> <p>The holder of the environmental authority must implement a groundwater monitoring program which has been developed by an appropriately qualified person. The monitoring program must include potential impacts to Brumby waterhole. The program must be able to detect a significant change to ground water quality values and standing water levels (consistent with the current suitability of the groundwater for domestic and agricultural use) due to activities that are part of this mining project.</p>
E5	Groundwater quality and standing water level must be monitored: <ul style="list-style-type: none"> (a) at monitoring bores within the nominated aquifers and minimum frequencies defined in Table E1 – Groundwater monitoring locations and frequency. (b) for quality characteristics listed in Table E2 - Groundwater contaminant trigger levels.

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Table E1 – Groundwater monitoring locations and frequency

Monitoring Bore	Hydrogeological Unit	Compliance Category		Location (Decimal Degrees - GDA2020)		Surface RL (mAHD)	Screened Interval RL (mAHD)	Monitoring Frequency
		Water quality (Y/N)	Water Level (Y/N)	Lat	Long			Water Level & Quality
Interpretation Bores								
GWMB12A	Alluvium	Y	Y	-21.497 84629	148.41590 62	247.55	242.55	Quarterly
Compliance Bores								
GWMB13A	Alluvium	Y	Y	-21.481 54286	148.40076 03	254.76	244.76	Quarterly
GWMB14A	Alluvium	Y	Y	-21.474 59877	148.39723 9	257.73	243.73	Quarterly
GWMB22A	Alluvium	Y	Y	-21.428 37262	148.37804 36	281.6	272.1	Quarterly
GWMB32	Alluvium	Y	Y	-21.539 31109	148.41614 94	251	240	Quarterly

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Table E2 – Groundwater contaminant trigger levels

Parameter	Unit	Trigger Levels ^Y	Limit Type
Groundwater Standing Water Level	RL	>2m drawdown from the background level	Maximum
pH	pH Units	6.5 - 9.0	Minimum/Maximum
Electrical Conductivity	µS/cm	9,720*	Maximum
Total Dissolved Solids	mg/L	6,330*	Maximum
Calcium	mg/L	No limit	interpretative purposes only #
Magnesium	mg/L	No limit	Interpretative purposes only#
Sodium	mg/L	No limit	Interpretative purposes only#
Potassium	mg/L	No limit	Interpretative purposes only#
Chloride	mg/L	No limit	Interpretative purposes only#
Sulfate	mg/L	No limit	Interpretative purposes only#
Carbonate	mg/L	No limit	Interpretative purposes only#
Bicarbonate	mg/L	No limit	Interpretative purposes only#
Phosphate(total)	mg/L	0.17*	Maximum
Nitrate	mg/L	0.5 [^]	Maximum
Iron	mg/L	5.49*	Maximum
Aluminium	mg/L	5 [^]	Maximum
Arsenic	mg/L	0.5 [^]	Maximum
Mercury	mg/L	0.002 [^]	Maximum
Antimony	mg/L	0.009	Maximum
Total Petroleum Hydrocarbons			
TPH (C6-C9)	mg/L	0.02 ⁺	Maximum
TPH (C10-C36)	mg/L	0.1 ⁺	Maximum

Note:

* bore specific 95th percentile triggers as per Hail Creek Mine Groundwater Monitoring Data Submission (11 November 2022).

The measurement of cations and anions are used to interpret the groundwater chemistry and identify the groundwater source e.g. by using piper diagrams

[^] from the 'EPP (Water) 2009 Isaac River Sub-basin environmental values and water quality objectives Basin No. 130 (part), including all waters of the Isaac River Sub-basin (including Connors River) September 2011'

⁺ limit of reporting

^Y All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger

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E6	<p>Groundwater Quality and Standing Water Level</p> <p>If groundwater from water quality compliance bores identified in Table E1 - Groundwater monitoring locations and frequency exceed the Contaminant Limits specified in Table E2 - Groundwater contaminant trigger levels on three (3) consecutive occasions, the holder of the environmental authority must notify the administering authority via WaTERS within 24 hours of receiving the results and complete a Trigger Investigation in accordance with condition E7.</p>
E7	<p>Trigger Investigation</p> <p>The trigger investigation required by E6 must be completed within fourteen (14) days of receiving the results to determine if the exceedance is a result of:</p> <ul style="list-style-type: none"> (a) activities authorised under this environmental authority; (b) natural variation; or (c) neighbouring land use resulting in groundwater impacts.
E8	<p>The holder of this environmental authority must provide a report of the Trigger Investigation to the administering authority within fourteen (14) days of completion of the investigation under condition E7.</p>
E9	<p>Follow Up Investigation</p> <p>If the Trigger Investigation under condition E7 determines that the exceedance was the result of activities authorised under this environmental authority, then a Follow Up Investigation must be completed within twenty-eight (28) days of submission of the Trigger Investigation.</p> <p>The Follow Up Investigation must:</p> <ul style="list-style-type: none"> (a) determine the source, cause and extent of contamination; and (b) implement appropriate mitigation and management measures to: <ul style="list-style-type: none"> (i) address any groundwater contamination; and (ii) prevent recurrence of any groundwater contamination.
E10	<p>Determining contaminant trigger level and limit type</p> <p>Groundwater contaminant trigger levels as per Table E2 - Groundwater quality triggers limits must be reviewed by 3 January 2025 to:</p> <ul style="list-style-type: none"> (a) evaluate whether the groundwater monitoring network is fit for purpose including frequency of monitoring; (b) adequately determine water quality characteristics and trigger values for inclusion in this environmental authority; (c) identify and interpret any trends in the groundwater network monitoring data; and (d) be detailed in a report submitted to the administering authority by 3 January 2025

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E11	An Annual Groundwater Monitoring Report (AGMR) is required to be completed and submitted to the administering authority by 1 October each calendar year.
E12	<p>The AGMR required by condition E11 must include:</p> <ul style="list-style-type: none"> (a) the groundwater quality and standing water level of all groundwater bores listed within Table E1 - Groundwater monitoring locations and frequency; (b) an assessment of long-term water quality and water level trends at all groundwater bores listed in Table E1 - Groundwater monitoring locations and frequency; (c) details of any review undertaken of the groundwater conceptual model; (d) an assessment of any differences between the groundwater level impact predicted and actual impacts for corresponding period; and (e) comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water.
E13	<p>The following information must be recorded in relation to all groundwater monitoring:</p> <ul style="list-style-type: none"> (a) the date on which the sample was taken; (b) the time at which the sample was taken; (c) the monitoring bore at which the sample was taken; (d) the results of all monitoring; and (e) details of any exceedances of the conditions of this environmental authority.
E14	All groundwater monitoring data required under this environmental authority or related to environmental management activities must be provided to the administering authority annually via WaTERS by 1 October each calendar year.
E15	<p>Bore Construction, Maintenance and Decommissioning</p> <p>The construction, maintenance, management, and decommissioning of groundwater bores (including background and compliance 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. For all bores constructed after February 2015 construction and decommissioning must be in accordance with the 'Minimum Construction Standard for Water Bores in Australia'.</p>

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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 authorised mining activities, except as permitted under the conditions of this environmental authority.
F2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table F1 – Mine affected water release points, sources and receiving waters .
F3	The transfer of mine affected water to and between internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with condition F29 is permitted.
F4	The release of mine affected water to waters in accordance with condition F2 must not exceed the release limits stated in Table F2 – Mine affected water release limits when measured at the monitoring points specified in Table F1 – Mine affected water release points, sources and receiving waters for each quality characteristic stated in Table F2 – Mine affected water release limits .
F5	<p>The release of mine affected water to waters from the release points must be monitored at the locations specified in Table F1 – Mine affected water release points, sources and receiving waters for each quality characteristic and at the frequency specified in Table F2 – Mine affected water release limits and Table F3 – Release contaminant trigger investigation levels, potential contaminants.</p> <p><i>Note: The administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event condition F5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.</i></p>
F6	<p>If quality characteristics of the release exceed any of the trigger levels specified in Table F3 – Release contaminant trigger investigation levels, potential contaminants during a release event, the environmental authority holder must compare the downstream results in the receiving waters to the trigger values specified in Table F3 - Release contaminant trigger investigation levels, potential contaminants and:</p> <ul style="list-style-type: none"> (a) where the trigger values are not exceeded then no action is to be taken; or (b) where the downstream results exceed the trigger values specified Table F3 – Release contaminant trigger investigation levels, potential contaminants for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and: <ul style="list-style-type: none"> (i) if the result is less than the background monitoring site data, then no action is to be taken; or

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	<p>(ii) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining:</p> <p>(A) details of the investigations carried out; and</p> <p>(B) actions taken to prevent environmental harm.</p> <p><i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with F6(b)(ii) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i></p>
F7	<p>If an exceedance in accordance with condition F6(b)(ii) is identified, the holder of the authority must notify the administering authority within twenty-four (24) hours of receiving the result.</p>

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Table F1 – Mine affected water release points, sources and receiving waters

Release Point (RP)	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	-21.512380 S	148.389656 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Middle Creek, into Absent Creek, then Hail Creek, then Bee Creek
RP 2	-21.439547 S	148.360839 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Schammer Creek, into Hail Creek, then Bee Creek
RP 3	-21.51236 S	148.39232 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Middle Creek, into Absent Creek, then Hail Creek, then Bee Creek
RP 4	-21.441961 S	148.353358 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Schammer Creek, into Hail Creek, then Bee Creek
RP5	-21.483093 S	148.350620 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Brumby Creek Diversion, into Middle Creek, then Absent Creek, then Hail Creek, then Bee Creek
RP6	-21.522354 S	148.413253 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Middle Creek, into Absent Creek, then Hail Creek, then Bee Creek
RP7	-21.468611 S	148.404167 E	Water impounded in the Hail Creek mine water storage system	End of pump pipeline	Hail Creek into Bee Creek

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Table F2 – Mine affected water release limits

Quality Characteristic	Release Limits	Monitoring frequency	Comment
Electrical conductivity ($\mu\text{S}/\text{cm}$)	Release limits specified in Table F4 for variable flow criteria.	Daily during release (the first sample must be taken within two (2) hours of commencement of release)	
pH (pH Unit)	6.5 (minimum) – All release flow criteria.	Daily during release (the first sample must be taken within two (2) hours of commencement of release)	
	9.0 (maximum) - Low Flow Release Flow Criteria only as per Table F4.		
	9.5 (maximum) – Medium, High, Very High and Ultra High Release Flow Criteria as per Table F4.		
Turbidity (NTU)	340NTU (receiving water flow less than 2 cubic metres per second)	Daily during release (the first sample within two (2) hours of commencement of release)	Turbidity is required to assess ecosystems impacts and can provide instantaneous results. Release limit based on 95 percentile of Bee Creek Upstream data.
	500NTU (receiving water flow equal to or greater than 2 cubic metres per second)		
Sulfate (SO_4^{2-}) (mg/L)	Release limits specified in Table F4 for variable flow criteria.	At commencement of a release and thereafter weekly during a release (the first sample must be taken within two (2) hours of commencement of a release)	Drinking water environmental values from NHMRC 2006 guidelines OR ANZECC.

Note:

1. While all endeavours are taken to collect the necessary data, manual sampling work will not be conducted in the event of unsafe access to locations or infrastructure. Should such access limitations arise, the administering authority must be notified as soon as practicable.
2. The determination of suitability for release of water should be informed by monitoring undertaken prior to release.

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Table F3 – Release contaminant trigger investigation levels, potential contaminants

Quality Characteristic	Trigger Levels (µg/L)	Comment on Trigger Level	Monitoring Frequency
Aluminium	55	<i>For aquatic ecosystem protection, based on SMD guideline</i>	Commencement of release and thereafter weekly during release
Copper	2	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Boron	370	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Molybdenum	34	<i>For aquatic ecosystem protection, based on low reliability guideline</i>	
Uranium	1	<i>For aquatic ecosystem protection, based on LOR for ICPMS</i>	
Ammonia	900	<i>For aquatic ecosystem protection, based on SMD guideline</i>	
Nitrate	1100	<i>For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for TN</i>	
Petroleum hydrocarbons (C6-C9)	20	<i>LOR for TRH Silica</i>	
Petroleum hydrocarbons (C10-C36)	100	<i>LOR for TRH Silica</i>	
Suspended Solids	Trigger value not applicable	<i>Suspended solids must be recorded and is required to measure the performance of erosion and sediment control measures</i>	

Note:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. The quality characteristics required to be monitored as per Table F3 can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from Table F3 by amendment.
3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMCANZ (2000).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS/TRH Silica – analytical method required to achieve LOR.

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F8	<p>Mine affected water release events</p> <p>The holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table F4 – Mine affected water release during flow events.</p>
F9	<p>Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with condition F2 must only take place during periods of natural flow in accordance with the receiving water flow criteria for discharge specified in Table F4 – Mine affected water release during flow events for the release points specified in Table F1 – Mine affected water release points, sources and receiving waters.</p>
F10	<p>The release of mine affected water to waters in accordance with condition F2 must not exceed the electrical conductivity and sulfate release limits or the Maximum Release Rate (for all combined release point flows) for each receiving water flow criteria for discharge specified in Table F4 – Mine affected water release during flow events when measured at the monitoring points specified in Table F1 – Mine affected water release points, sources and receiving waters.</p>
F11	<p>Release of mine affected water under low flow conditions as specified in Table F4 – Mine affected water release during flow events must cease if electrical conductivity reaches 1,400uS/cm when measured at the downstream cease to release monitoring point (MP8) specified in Table F6 – Receiving water upstream background sites and downstream monitoring points.</p>
F12	<p>The daily quantity of mine affected water released from each release point must be; measured and recorded at the monitoring points in Table F1 – Mine affected water release points, sources and receiving waters.</p>
F13	<p>Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.</p>

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Table F4 – Mine affected water release during flow events

Release Point (RP):	RP1, RP2, RP3, RP4, RP5, RP6, RP7	Gauging Station:	Bee Creek at Suttor Developmental Road (MP5)
Receiving Water Flow Recording Frequency:	Continuous (minimum daily)	Coordinates - Lat / Long (DD, GDA94):	-21.554482, 148.456678
Receiving Water Flow Criteria for discharge (m³/s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity and Sulfate Release Limits	
Low Flow < 2 m³/s of natural flow	1 m ³ /s for a period of 21 days after natural flow events that exceed 2.0m ³ /sec	Electrical conductivity (µS/cm): 2,050 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250 ²	
Medium Flow 1 > 2 m³/s of natural flow	1m ³ /s	Electrical conductivity (µS/cm): 2,200 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 2 > 2 m³/s of natural flow	0.73 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 3 > 2 m³/s of natural flow	0.56 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 4 > 3m³/s of natural flow	1.6 m ³ /s	Electrical conductivity (µS/cm): 2,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 5 > 3m³/s of natural flow	1.1 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 6 > 3m³/s of natural flow	0.84 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 7 > 4m³/s of natural flow	2.1 m ³ /s	Electrical conductivity (µS/cm): 2,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 8 > 4m³/s of natural flow	1.5 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
Medium Flow 9 > 4m³/s of natural flow	1.1 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 250	
High Flow 1 > 10 m³/s of natural flow	3.6 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425	
High Flow 2 > 10 m³/s of natural flow	2.8 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425	
High Flow 3 > 20 m³/s of natural flow	7.3 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425	
High Flow 4 > 20 m³/s of natural flow	5.6 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425	

Table F4 is continued over the page

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Table F4 (continued)		
Receiving Water Flow Criteria for discharge (m ³ /s)	Maximum release rate (for all combined RP flows)	Electrical Conductivity and Sulfate Release Limits
Very High Flow 1 > 35 m ³ /s of natural flow	12.7 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Very High Flow 2 > 35 m ³ /s of natural flow	9.8 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Very High Flow 3 > 47 m ³ /s of natural flow	16.92 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Very High Flow 4 > 47 m ³ /s of natural flow	13.16 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Ultra High Flow 1 > 60 m ³ /s of natural flow	21.60 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Ultra High Flow 2 > 60 m ³ /s of natural flow	16.80 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Ultra High Flow 3 > 71 m ³ /s of natural flow	25.56 m ³ /s	Electrical conductivity (µS/cm): 2,500 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425
Ultra High Flow 4 > 71 m ³ /s of natural flow	19.88 m ³ /s	Electrical conductivity (µS/cm): 3,000 (end of pipe) Sulfate (SO ₄ ²⁻) (mg/L): 425

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<p>F14</p>	<p>Notification of release event commencement</p> <p>The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and no later than twenty-four (24) hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:</p> <ul style="list-style-type: none"> (a) release commencement date/time; (b) details regarding the compliance of the release with the conditions of Schedule F: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); (c) release point/s; (d) release rate; (e) release quality; and (f) receiving water/s including the natural flow rate.
<p>F15</p>	<p>Notification of release event cessation</p> <p>The environmental authority holder must notify the administering authority via WaTERS as soon as practicable and nominally no later than twenty-four (24) hours after cessation of a release notified under condition F14, the following information:</p> <ul style="list-style-type: none"> a) release cessation date/time; b) release rate; c) natural flow volume in receiving water; and d) volume of water released. <p><i>Note: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with conditions F14 and F15, provided the relevant details of the release are included within the notification provided in accordance with conditions F14 and F15.</i></p>
<p>F16</p>	<p>The environmental authority holder must within twenty-eight (28) days of notification under condition F15, provide the administering authority via WaTERS the following information:</p> <ul style="list-style-type: none"> a) the release commencement date and time; b) the release cessation date and time; c) volume of water released, including daily release volumes; d) receiving water(s) including the natural flow rate; and e) details regarding the compliance of the release with the conditions in Schedule F: Surface Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); f) all in-situ water quality monitoring results; and g) any other matter(s) pertinent to the water release event.

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F17	<p>Notification of Release Event Exceedance</p> <p>If the release limits defined in Table F2 – Mine affected water release limits are exceeded, the holder of the environmental authority must notify the administering authority via WaTERS or Pollution Hotline within twenty-four (24) hours of receiving the results.</p>
F18	<p>The environmental authority holder must, within twenty-eight (28) days of notification under condition F17, provide a report to the administering authority detailing:</p> <ul style="list-style-type: none"> a) the reason for the release; b) the location of the release; c) the total volume of the release and which (if any) part of this volume was non-compliant; d) the total duration of the release and which (if any) part of this period was non-compliant; e) all water quality monitoring results (including all laboratory analyses); f) identification of any environmental harm as a result of the non-compliance; g) all calculations; and h) any other matters pertinent to the water release event.
F19	<p>Receiving environment monitoring and contaminant trigger levels</p> <p>The quality of the receiving waters must be monitored at the upstream background and downstream locations specified in Table F6 – Receiving water upstream background sites and downstream monitoring points for each quality characteristic and at the monitoring frequency stated in Table F5 – Receiving waters contaminant trigger levels.</p>
F20	<p>If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Table F5 – Receiving waters contaminant trigger levels during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:</p> <ul style="list-style-type: none"> (a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken, or (b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: <ul style="list-style-type: none"> (i) details of the investigations carried out; and (ii) actions taken to prevent environmental harm. <p><i>Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with F19 b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i></p>
F21	<p>All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.</p>

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Table F5 – Receiving waters contaminant trigger levels

Quality Characteristic	Trigger Level	Monitoring Frequency
pH	6.5 – 9.0	Daily during the release
Electrical Conductivity ($\mu\text{S}/\text{cm}$)	1,500	Daily during the release
Turbidity (NTU)	600	Daily during the release
Sulfate (SO_4^{2-}) (mg/L)	250	At commencement of a release and thereafter weekly during a release (the first sample must be taken within two (2) hours of commencement of a release)

Note: Whilst monitoring should aim to be undertaken at the frequency identified in **Table F5 – Receiving waters contaminant trigger levels**, it is only required when access is available.

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Table F6 – Receiving water upstream background sites and downstream monitoring points

Monitoring Points	Receiving Waters Location Description	Latitude (decimal degree, GDA94)	Longitude (decimal degree, GDA94)
Upstream Background Monitoring Points			
Middle Creek – upstream at rail loop MP1	Middle Creek, 4 km upstream of RP1	-21.497797	148.360444
Bee Creek – upstream, MP2	Bee Creek, 11 km upstream of point where release waters enter Bee Creek	-21.547130	148.342317
Schammer Creek – upstream MP4	Schammer Creek upstream location	-21.433893	148.351669
Hail Creek – upstream, MP9	Hail Creek upstream location	-21.444359	148.383371
Middle Creek – upstream at Access Road MP10	Middle Creek, 15.5 km upstream of RP5	-21.496576	148.344661
Downstream Monitoring Points			
Bee Creek – downstream at Suttor Road MP5	Bee Creek, 10 km downstream of RP1	-21.554482	148.456678
Cease to Release Monitoring Point			
Bee Creek – downstream at Strathfield Road MP8	Bee Creek, 35 km downstream of MP5	-21.742714	148.526103

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F22	<p>Post Low Flow Release Flush</p> <p>Within four (4) hours of the cessation of a release undertaken as per the low flow scenario defined in Table - F4 Mine affected water release during flow events, the environmental authority holder must undertake a post low flush, that:</p> <p>(a) occurs for a minimum of three (3) days;</p> <p>(b) uses non-mine affected water with an EC value of <900µS/cm; and</p> <p>(c) has a minimum flow rate of 20ML/day.</p> <p><i>Note: Temporary suspension of up to forty-eight (48) hours and temporary suspension of longer than forty-eight (48) hours at the request of a downstream landholder of low flow releases defined in Table - F4 Mine affected water release during flow events are not considered a cessation of release for this condition F22.</i></p>
F23	<p>The environmental authority holder must monitor the Electrical Conductivity level at MP5 – Bee Creek Downstream daily during the post low flow release flush authorised under condition F22.</p>
F24	<p>Receiving Environment Monitoring Program</p> <p>The environmental authority holder must develop and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.</p> <p>For the purposes of the REMP, the receiving environment is the waters of the Bee Creek catchment and connected or surrounding waterways within 12 km downstream of the boundary of the ML4738. 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.</p>
F25	<p>The REMP required under condition F24 must be in accordance with the Receiving Environment Monitoring Program guideline published by the administering authority.</p>
F26	<p>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.</p>
F27	<p>Water reuse</p> <p>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).</p>

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F28	<p>Annual water monitoring reporting</p> <p>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:</p> <ul style="list-style-type: none"> (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 annually by 1 October to the administering authority via WaTERS.
F29	<p>Temporary interference with waterways</p> <p>Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources, Mines and Energy (or its successor) <i>Guideline – Riverine protection permit exemption requirements</i>.</p>
F30	<p>Water management plan</p> <p>A Water Management Plan must be developed by an appropriately qualified person and implemented. The Plan must be kept up to date and reflect current operational practices and water management system configuration.</p>
F31	<p>Stormwater and water sediment controls</p> <p>An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.</p>
F32	<p>Stormwater, other than mine affected water, is permitted to be released to waters from:</p> <ul style="list-style-type: none"> (a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F31; (b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition F30, for the purpose of ensuring water does not become mine affected water; and (c) for the purpose of this authority, runoff from haul roads traversing the Hail Creek Q100 flood plain are to be contained and treated as sediment laden waters as detailed in the Water Management Plan.

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Schedule G: Sewage treatment	
Condition number	Condition
G1	The only contaminant permitted to be released to land is treated sewage effluent in compliance with the release limits stated in Table G1 – Contaminant release limits to land .
G2	The application of treated effluent to land must be carried out in a manner such that: <ul style="list-style-type: none"> (a) vegetation is not damaged; (b) there is no surface ponding of effluent; and (c) 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 release to land must be measured and records kept of the volumes of effluent released.
G6	When circumstances prevent the irrigation or beneficial reuse of treated sewage effluent such as during or following rain events, waters must be directed to a wet weather storage or alternative measures must be taken to store/lawfully dispose of effluent.
G7	Treated sewage effluent must only be supplied to another person or organisation that has a written plan detailing how the user of the treated sewage effluent will comply with their general environmental duty under section 319 of the Act 1994 whilst using the treated sewage effluent.

Table G1 – Contaminant release limits to land

Parameter	Type	Criteria	Monitoring Frequency
Suspended Solids	Maximum	30 mg/L	Monthly
pH	Maximum	6.5 – 8.0	Monthly
Free residual chlorine	Maximum	1 mg/L	Monthly
Faecal coliforms	Maximum	1000 thermo-tolerant coliforms/ 100 ml	Monthly

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Schedule H: Land	
Condition number	Condition
H1	<p>Rehabilitation</p> <p>Land disturbed by mining must be rehabilitated in accordance with Table H1 – Rehabilitation Requirements.</p>
H2	<p>Contaminated Land</p> <p>Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.</p>
H3	<p>Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under condition H1.</p>
H4	<p>Minimise the potential for contamination of land by hazardous contaminants.</p>
H5	<p>Topsoil management</p> <p>Topsoil must be stripped ahead of any areas where the topsoil resource would otherwise be lost or permanently destroyed and stored if not able to be immediately used.</p>
H6	<p>Topsoil that is stockpiled for greater than six (6) months must be managed to minimise erosion.</p>
H7	<p>Residual void outcome</p> <p>Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.</p>

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Table H1 – Rehabilitation Requirements

Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Whole of Hail Creek Mine (HCM)	All mine-affected and undisturbed land on Mining Lease 4738	Successfully achieve mine closure and final relinquishment	Achieve a sustainable and compatible land use upon closure, to ensure a positive legacy result.	a) Long term safety b) Non-polluting c) Stable d) Able to sustain preferred final land use	Assessed for all options in detail below under separate domains.
1. Waste Rock Dumps 2. Fines and coarse rejects emplacements 3. Areas not disturbed by mining activities	1. Waste rock dumps 2. Fines and coarse rejects emplacements 3. Areas not disturbed by mining activities	a) Long term safety	Rehabilitated and in-situ landforms are acceptable safety risk for humans and animals now and in the foreseeable future	a) Exposure to hazardous materials in spoil b) Exposure to spontaneous combustion materials near surface c) Tunnelling of waste rock dumps spoil d) Compliance with rehabilitation procedures and closure of fines and coarse rejects emplacements design and management plans. e) Landforms hazards to people and animals	i) Evidence of spoil which demonstrates acid rock drainage (ARD) and/or spontaneous combustion risks have been managed appropriately. ii) Evidence of spoil sodicity assessment and management of problem spoils with spoil remediation method. iii) Implementation of engineering and capping designs promoting containment of potential hazardous material or contaminated waste material. iv) Evidence that rehabilitated land has a rate of erosion similar or below that in the relevant reference sites. The applicable relevant reference sites must have similar chemical and physical characteristics including slope length as that of the rehabilitated area. v) Record of compliance with procedures and management plan vi) Evidence that risk assessment has been carried out on long term safety aspects and control measures are in place to meet agreed requirements. vii) Evidence that safety issues have been addressed from physical risks. E.g. Falls from height, fall on risk minimised.
		b) Non-polluting	Waste rock dumps are adequately managed to avoid exposure to hazardous materials and yield benign runoff and seepage with improving water quality over time	a) Exposure to acid forming/generating materials b) Water chemistry parameters c) Exposure to saline materials d) Exposure to sodic materials e) Sediment loading waters.	i) Evidence that risk assessment has been carried out on potential long term pollution aspects and that appropriated control measures are in place. ii) Implementation of engineering and capping designs providing containment of potential hazardous material or contaminated waste material

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
					<ul style="list-style-type: none"> iii) Surface water and Groundwater quality monitoring post closure indicates water quality to be similar to relevant reference sites iv) No exposed hazardous spoil materials due to erosion of covering soil (capping) materials
		c) Stable	<ul style="list-style-type: none"> 1. Slopes and surfaces are geotechnically stable. 2. Landform with very low probability of slope slippage or failure with serious environmental consequences. 3. Landform designs achieve soil loss rates similar to or lower than on relevant reference sites. 4. Landform design allows final land use vegetation establishment. 5. Vegetation cover established to minimize soil loss rates. 	<ul style="list-style-type: none"> a) Engineering design. b) Erosion rates. c) Downstream impact and sustaining final land use. d) Slope and drainage systems that optimise erosion resistance, functionality and structural integrity. e) Record of slop failure. f) Vegetation type and density g) Foliage cover 	<ul style="list-style-type: none"> i) Evidence that stability has improved over time as rehabilitation has been established. ii) Dimensions and frequency of occurrences of erosion are similar to corresponding relevant reference sites. iii) Evidence that the landform design is stable under regular and irregular climatic events. iv) Evidence that landform design considers final land use. v) Evidence that foliage cover, vegetation types and densities in rehabilitated areas are comparable with relevant reference sites. vi) Leaf litter, humus, depth of growing medium comparable with relevant reference sites.
		d) Able to sustain final land use	<ul style="list-style-type: none"> 1. Soil biological, chemical and physical properties provide support to preferred land use 	<ul style="list-style-type: none"> a) Growth media biological, chemical and physical components and ameliorants are present to allow vegetative cover establishment. b) The following indicators are comparable with relevant reference sites: organic matter, soil nutrients, invertebrate activity, soil texture, topsoil and grown media depth, physical and chemical property limits. 	<ul style="list-style-type: none"> i) Evidence that physical, chemical and biological properties of the growing media are similar to relevant reference sites ii) Evidence of nutrient cycling/accumulation occurs at a rate comparable with relevant reference sites (and based on monitoring/research)
			<ul style="list-style-type: none"> 2. Native ecosystem diversity and sustainability are commensurable within the preferred final land form use 	<ul style="list-style-type: none"> a) Vegetation contains a diversity (trees, shrubs, herbs, grass) comparable of that of relevant reference sites b) Vegetation communities have been designed to enhance connectivity across site and adjoining landscape. c) Plant recruitment d) Exotic species diversity and abundance e) Exotic species identification and management 	<ul style="list-style-type: none"> i) Evidence that the diversity of plant species are similar to that of relevant reference sites. ii) Species in rehabilitated areas show evidence of flowering, viable seed setting, germination and emergence. iii) Evidence of generational succession of trees and shrubs apparent in rehabilitated areas. iv) Protective ground cover provided by litter material is comparable to that of the relevant reference sites v) Evidence that vegetation is in a condition (i.e. dieback of trees, attrition limits, live/healthy

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				f) Ground layer contains protective ground cover and habitat structure. g) Groundcover diversity h) Groundcover abundance i) Ecosystem health j) Native fauna species	trees, flowers/fruit on trees) comparable to that of the relevant reference sites vi) Evidence that native fauna species are present and consistent with the native habitats established in those areas
			3. Established grazing land is productive and sustainable	a) Grass species are desirable - Perennial, Palatable and Productive. b) Pasture health c) Land condition d) Pasture condition e) Forage condition	Evidence that at least condition B of 'ABCD grazing land condition framework.' has been achieved.
4. Final Void	Final void mine excavation areas	a) Long term safety	Final void areas are safe for humans and animals now and in the foreseeable future	a) Fall hazards b) Drowning hazards	i) Preventative measures in place for long term prevention of falls. ii) Safe access for people and animals. iii) Geotechnical stability of the high wall, low wall, end wall and ramp walls has been achieved and geotechnical investigations demonstrations this have been undertaken and reported
		b) Non-Polluting	1. Final void areas and volumes are minimized. 2. Final void hydrology is understood. 3. Interconnectivity between final void, surface water and groundwater is established. 4. Final void long term impacts are identified and consistent with preferred final landform use. 5. Polluted water contained/ treated on site.	a) Landform design considering final void area and volume. b) Surface water and groundwater chemistry parameters c) Groundwater network monitoring data d) Exposure to ARD materials e) Exposure to saline materials f) Water balance modelling g) Water quality modelling	i) Evidence that final void water is contained with no overflows as predicted by water balance modelling. ii) Evidence that actions to reduce interconnection between final void, downstream surface system and groundwater are in place where possible. iii) Final void is protected from possible inflows from nearby watercourses. iv) Water quality monitoring of storage as predicted by water quality modelling shows no adverse impacts. v) Evidence through monitoring that the groundwater quality is as predicted and stable. vi) Evidence that groundwater levels have not been detrimentally impacted by final void.
		c) Stable	1. Slopes and surfaces are geotechnically stable. 2. Landform with very low probability of slope slippage or failure with serious environmental consequences.	a) Engineering design b) Erosion c) Downstream impact and sustaining final land use. d) Slope and drainage systems that optimise erosion resistance,	i) Evidence that slope angle and length between graded banks adopted in rehabilitated land is geo-technically stable and allows sustaining preferred land use.

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
			3. Landform designs achieve soil loss rates similar to or lower than those on relevant reference sites. 4. Landform design allows final land use vegetation establishment.	functionality and structural integrity. e) Record of slope failure	ii) Evidence that stability of the landform has improved over time as rehabilitation established. iii) Dimensions and frequency of occurrences of erosion similar to corresponding relevant reference sites. iv) Evidence that landform design considers preferred final land use.
5. Infrastructure Areas 6. Water Infrastructure	Mine site infrastructure including power lines, road networks, accommodation village, buildings, plant, and industrial areas both on /off lease. Water infrastructure including water storages, drainage channels, diversions and civil structures such as flood levees and bridges both on/off lease.	a) Long term safety	Remnant infrastructure areas are safe for humans and animals now and in the foreseeable future	a) Presence of waste materials both domestic and industrial b) Structural integrity retained of infrastructure c) Stable and uniform ground surface. d) Exposure to hazardous materials e) Safe access routes f) Appropriate decommissioning of regulated structures and other dams.	i) Evidence that risks from remnant infrastructure have been minimised and if necessary, control measures are in place to meet agreed requirements. ii) Facilities and equipment are to be decommissioned and removed unless remaining for an agreed post operational use as informed by stakeholder engagement strategy
		b) Non-polluting	1. Infrastructure areas are free of waste and hazardous materials both domestic and industrial. 2. Polluted water contained/ treated on site. 3. Final landform water storages are non-polluting and meet water quality parameters suitable; or preferred closure options such as agricultural use.	a) Presence of legacy dams b) Presence of waste materials both domestic and industrial c) Exposure to toxic or hazardous materials. d) Substrate parameters e) Exposure to ARD materials f) Exposure to saline materials g) Exposure to sodic materials h) Surface water monitoring upstream and downstream indicates no negative impacts on downstream receptors.	i) Evidence that contaminated land has been remediated in accordance with environmental regulation. ii) Evidence that water storages are contained with any overflows into external surface water systems. iii) Evidence through surface water monitoring that surface water quality is not negatively impacted by final rehabilitation.
		c) Stable	1. Infrastructure areas provide a stable and uniform ground surface suitable for preferred final land use. 2. All infrastructure is structurally and operationally compliant at point of closure and meets agreed post operational land use standards. 3. Vegetation cover is established to minimize soil loss rates.	a) Slope and drainage systems that optimise erosion resistance, functionality and structural integrity. b) Downstream impact and sustaining final land use. c) Slope and drainage systems that optimise erosion resistance, functionality and structural integrity. d) Record of slope failure.	i) Evidence that stability of the landform has improved over time as rehabilitation established. ii) Evidence that disturbed land by mining activities does not have a rate of soil loss that exceeds that rate in relevant reference sites. iii) Vegetation types and density are comparable with relevant reference sites. iv) Evidence that foliage in rehabilitated areas is comparable with relevant reference sites.

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
		d) Able to sustain final land use.	1. Soil biological, chemical and physical properties provide support to preferred land use	e) Vegetation type and density. a) Growth media biological, chemical and physical components and ameliorants are present to allow vegetative cover establishment. b) The following indicators are comparable with relevant reference sites: organic matter, soil nutrients, invertebrate activity, soil texture, topsoil and grown media depth, physical and chemical property limits.	i) Evidence that physical, chemical and biological properties of the growing media are similar to relevant reference sites. ii) Evidence of nutrient cycling/accumulation occurs at a rate comparable with relevant reference sites (and based on monitoring/research).
			2. Native ecosystem diversity and sustainability are commensurable within the preferred final landform use	a) Vegetation contains a diversity (trees, shrubs, herbs, grass) comparable of that of relevant reference sites b) Vegetation communities have been designed to enhance connectivity across site and adjoining landscape. c) Plant recruitment d) Exotic species diversity and abundance e) Exotic species identification and management f) Ground layer contains protective ground cover and habitat structure. g) Groundcover diversity h) Groundcover abundance i) Ecosystem health j) Native fauna species	i) Evidence that the diversity of plant species is similar to that of relevant reference sites. ii) Species in rehabilitated areas show evidence of flowering, viable seed setting, germination and emergence. iii) Evidence of generational succession of trees and shrubs apparent in rehabilitated areas. iv) Protective ground cover provided by litter material is comparable to that of the relevant reference sites. v) Evidence that vegetation is in a condition (i.e. dieback of trees, attrition limits, live/healthy trees, flowers/fruit on trees) comparable to that of the relevant reference sites. vi) Evidence that native fauna species are present and consistent with the native habitats established in those areas.
			3. Established grazing land is productive and sustainable	a) Grass species are desirable - Perennial, Palatable and Productive. b) Pasture health c) Land condition d) Pasture condition e) Forage condition	Evidence that at least condition B of 'ABCD grazing land condition framework.' has been achieved.

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
7. Exploration Disturbance	Exploration activities	Long term safety	Rehabilitation or conversion of exploration drill holes.	All exploration drill holes undertaken on the mining lease have been rehabilitated or converted to water bores.	i) Certification by an appropriately qualified person that all exploration drill holes not converted to either a water bore, or a groundwater monitoring bore have been rehabilitated. ii) Certification by a suitably qualified person that all exploration drill holes converted to water bores are compliant with the <i>Water Act 2000</i> (QLD).
				All monitoring Bores undertaken on the mining lease have been rehabilitated.	Certification by an appropriately qualified person that all monitoring bores have been rehabilitated in accordance with the Minimum Construction Requirements for Water Bores in Australia (Australian Government Edition 4) or latest edition.
		Non-polluting	Mine affected water contained on site	Groundwater quality	Certification by an appropriately qualified person that groundwater quality at monitoring locations is not negatively impacted when trends indicated by results from baseline monitoring and the 5 years previous to mine closure are compared to monitoring results for the rehabilitated landform.
		Stable	Vegetation cover sufficient for a self-sustaining community and to minimise erosion.	Vegetation type and density.	Evidence that the vegetation type and density are of species representative of pre-exploration communities native ecosystem or grazing pasture) and are suited to the site characteristics including soil type, topography and climate and that soil erosion meets the goals set in this plan.
		Able to sustain final land use	Established grazing land is productive and sustainable	a) Grass species are desirable Perennial, Palatable and Productive. b) Pasture health c) Land condition d) Pasture condition e) Forage condition	Evidence that at least condition B of 'ABCD grazing land condition framework.' has been achieved.
Native ecosystem diversity and sustainability are commensurable within the preferred final landform use	a) Vegetation contains a diversity (trees, shrubs, herbs, grass) comparable to that of relevant reference sites. b) Vegetation communities have been designed to enhance connectivity across site and adjoining landscape. c) Pant recruitment.		i) Evidence that the diversity of plant species is similar to that of relevant reference sites. ii) Species in rehabilitated areas show evidence of flowering, viable seed setting, germination and emergence. iii) Evidence of generational succession of trees and shrubs apparent in rehabilitated areas.		

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Mine Domain	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
				<ul style="list-style-type: none"> d) Exotic species diversity and abundance. e) Exotic species identification and management. f) Ground layer contains protective groundcover and habitat structure. g) Groundcover diversity. h) Groundcover abundance. i) Ecosystem health. j) Native fauna species. 	<ul style="list-style-type: none"> iv) Protective ground cover provided by litter material is comparable to that of the relevant reference sites. v) Evidence that vegetation is in a condition (i.e. dieback of trees, attrition limits, live/healthy trees, flowers/fruit on trees) comparable to that of the relevant reference sites. vi) Evidence that native fauna species are present and consistent with the native habitats established in Area C – Authorised Exploration Western Area (Figure 2b) and Area E – Authorised Exploration Site (Figure 2a).

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H8	<p>Complete an investigation into residual voids for the mine life and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in condition H7 and landform design criteria within eighteen (18) months of 7 October 2015 for department review and comment. On acceptance of the criteria proposed in the residual void management plan, the criteria must be specified in this Environmental Authority.</p> <p>The investigation must at a minimum include the following:</p> <ul style="list-style-type: none"> (a) a study of options available for minimising final void area and volume; (b) develop design criteria for rehabilitation of final voids; (c) a void hydrology study, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term; (d) a pit wall stability study, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events; (e) a study of void capability to support native flora and fauna; and (f) a proposal/s for end of mine void rehabilitation success criteria and final void areas and volumes.
H9	<p>Prior to lease relinquishment, a qualified engineer (recognised by a credible external accreditation body) must undertake a geotechnical assessment on all final voids. The assessment must investigate final void geotechnical stability and the subsequent report must make recommendations for management of stability and safety.</p>

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H10	<p>Mining Waste Management</p> <p>A Mining Waste Management Plan including the waste overburden and coal washery wastes (rejects and tailings) must be developed and implemented during the continuation of the environmental authority. The Mining Waste Management Plan must at a minimum include:</p> <ul style="list-style-type: none"> (a) characterisation programs to ensure that all mining waste is progressively characterised prior to disposal for net acid producing potential, salinity and the following contaminants: Arsenic (As) and Selenium (Se); (b) characterisation programs to ensure that the physical properties including the dispersive nature (sodicity) of the mining waste is progressively characterised prior to disposal; (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; and (j) contingency plans and emergency procedures for non-routine situations; and periodic review of environmental performance and continual improvement.
H11	<p>The management of mining waste emplacement must be managed in accordance with the following:</p> <ul style="list-style-type: none"> (a) all mining waste identified as highly sodic or net acid producing potential or containing high levels of the following contaminants: Arsenic (As) and Selenium (Se), must be placed to minimise the likelihood of environmental harm.

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H12	<p>Subsidence Management</p> <p>Prior to the commencement of underground mining, a Subsidence Management Plan, including watercourses or adjoining floodplains, must be implemented and maintained prior to the commencement of activities that result in subsidence. The plan must include at least the following components:</p> <ul style="list-style-type: none"> (a) condition of the existing watercourse (including a baseline assessment); (b) the proposed impacts of subsidence on the watercourse and floodplain including but not limited to: <ul style="list-style-type: none"> (i) physical condition of surface drainages; (ii) overland Flow; (iii) water Quality; (iv) land condition: Current land condition to be impacted by subsidence; (v) infrastructure; detail of existing infrastructure (pipelines, railway, power lines and haul roads) should be identified where there is a potential impact from effects of land subsidence; and (c) proposed options for mitigating any impacts associated with subsidence and how these mitigation methods will be implemented.
H13	<p>The holder of this environmental authority must not commence subsidence of a longwall panel that will result in the subsidence of a watercourse or adjoining floodplain unless:</p> <ul style="list-style-type: none"> (a) the holder has submitted to the administering authority two copies of a watercourse subsidence management plan together with certification of an appropriately qualified person that the plan is compliant in all respects with this environmental authority and in accordance with engineering best practice; and (b) at least twenty-eight (28) days has passed since the submission of the subsidence management plan. <p>The holder of this environmental authority must arrange for each subsided longwall panel to be inspected annually by an appropriately qualified person, in accordance with conditions H14 - H17.</p>
H14	<p>The annual inspection must be conducted between 1 September and 1 November each year.</p>
H15	<p>At each annual inspection, the condition of each subsided longwall panel must be assessed, including the structural, geotechnical and hydraulic adequacy of the subsided longwall panel and the adequacy of the works with respect to the subsidence management plan.</p>
H16	<p>For each inspection, two copies of a report certified by the appropriately qualified person, including any recommendations to ensure the integrity of each subsided longwall panel must be provided to the administering authority within twenty-eight (28) days of the inspection.</p>
H17	<p>The report must detail any remedial works that have occurred and the resultant outcome from such works.</p>

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H18	The holder of the environmental authority, if directed by the administering authority, will be required to carry out any remedial works that are deemed to minimise impact on the physical integrity of the landscape from the effects of subsidence.
H19	<p>Authorised Exploration Activities</p> <p>Disturbance due to exploration activities conducted in accordance with conditions A3 and A4 of this environmental activity must not exceed the extent of impact areas detailed in Table H2 – Disturbance Limitations.</p>
H20	<p>Disturbance conducted in the area marked 'D – Authorised Exploration Exeveale North' is only authorised for:</p> <p>(a) the purposes of exploration drilling, pads, sumps, access tracks, ecological surveys and environmental monitoring; and</p> <p>(b) the period starting 27 April 2023 and ending 27 April 2024 (inclusive).</p>
H21	<p>Disturbance conducted in the area marked 'C – Hail Creek West Exploration' and 'E – Exploration Site' is only authorised for:</p> <p>(a) the purpose of exploration drilling pads, geotechnical drilling, test pits, sumps, access tracks, seismic survey, ecological surveys and environmental monitoring; and</p> <p>(b) the period starting mid to late 2024 and ending 31 December 2027.</p>
H22	<p>Disturbance conducted within areas marked 'C', 'D' and 'E' under condition A4 of this environmental authority must have rehabilitation works completed:</p> <p>(a) within six (6) months of the end of the period stated under condition H21(b);</p> <p>(b) without limiting (a), in accordance with the administering authority's (or its successors) latest version of '<i>Eligibility criteria and standard conditions for exploration and mineral development projects—Version 2</i>' (ESR/2016/1985); and</p> <p>(c) in accordance with Table H1 – Rehabilitation Requirements of this environmental authority.</p>

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Table H2 – Disturbance Limitations

Prescribed Environmental Matter	Maximum Extent of Impact (ha)	Location
C – Hail Creek West Exploration¹		
Regulated vegetation – RE 11.3.4	0.4	Figure 6: <u>Hail Creek West Project – MSES</u>
Regulated vegetation – RE 11.9.7	2.16	
Regulated vegetation within defined distance of a watercourse – RE 11.3.25	0.35	
Regulated vegetation within defined distance of a watercourse – RE 11.9.2	0.08	
Regulated vegetation within defined distance of a watercourse – RE 11.9.7	0.01	
Regulated vegetation within defined distance of a watercourse – RE 11.9.9	2.07	
Ornamental Snake habitat	1.57	
D – Authorised Exploration Exevale North¹		
Squatter Pigeon habitat	4.63	Figure 3: Habitat Koala and Squatter Pigeon
E – Authorised Site Exploration¹		
Regulated vegetation – RE 11.4.2	1.6	Figure 5: Regional Ecosystem
Regulated vegetation – RE 11.9.7	0.48	
Ornamental Snake habitat	3.34	Figure 4: Habitat Australian Painted Snipe and Ornamental Snake

¹areas 'C', 'D' and 'E' are as depicted in the maps in **Schedule A – Figure 2a** and **Figure 2b** to this environmental authority.

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Schedule I: Regulated structures	
Condition number	Condition
I1	<p>Assessment of consequence category</p> <p>The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor, at the following times:</p> <p>(a) prior to the design and construction of the structure, if it is not an existing structure; or</p> <p>(b) prior to any change in its purpose or the nature of its stored contents.</p>
I2	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.
I3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor.
I4	<p>Design and construction of a regulated structure</p> <p>Conditions I5 to I9 inclusive do not apply to existing structures.</p>
I5	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 most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor.
I6	<p>Construction of a regulated structure is prohibited unless:</p> <p>(a) the holder has submitted a consequence category assessment report and certification to the administering authority; and</p> <p>(b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.</p>
I7	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 most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor and must be recorded in the Register of Regulated Structures.

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<p>I8</p>	<p>Regulated structures must:</p> <ul style="list-style-type: none"> (a) be designed and constructed in compliance with the most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor; (b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: <ul style="list-style-type: none"> (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; and (c) have the floor and sides of the dam designed and constructed to prevent or minimise the passing of the wetting front and any entrained contaminants through either the floor or side of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
<p>I9</p>	<p>Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:</p> <ul style="list-style-type: none"> (a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated; and (b) construction of the regulated structure is in accordance with the design plan.
<p>I10</p>	<p>Notification of affected persons</p> <p>All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure:</p> <ul style="list-style-type: none"> (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, with five (5) business days of it being amended.

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I11	<p>Operation of a regulated structure</p> <p>Operation of a regulated structure, except for an existing structure, is prohibited unless the holder has submitted to the administering authority in respect of regulated structure all of the following:</p> <ul style="list-style-type: none"> (a) one paper copy and one electronic copy of the design plan and certification of the ‘design plan’ in accordance with condition I6; (b) a set of ‘as constructed’ drawings and specifications; (c) certification of the ‘as constructed drawings and specifications’ in accordance with condition I9; (d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the design storage allowance (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 structures.
I12	<p>For existing structures that are regulated structures:</p> <ul style="list-style-type: none"> (a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within twelve (12) months of the commencement of this condition a copy of the certified system design plan including that structure; and (b) there must be a current operational plan for the existing structures.
I13	<p>Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified ‘as constructed’ drawings.</p>
I14	<p>Mandatory reporting level</p> <p>Conditions I15 to I17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for ‘failure to contain – overtopping’.</p>
I15	<p>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.</p>
I16	<p>The holder must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.</p>
I17	<p>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.</p>
I18	<p>The holder must record any changes to the MRL in the Register of Regulated Structures.</p>

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I19	<p>Design Storage Allowance</p> <p>Conditions I20 to I23 inclusive only apply to Regulated Structures which have not been certified as low consequence category for ‘failure to contain – overtopping’.</p>
I20	<p>The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.</p>
I21	<p>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 the meet the DSA volume for the dam (or network or linked containment systems).</p>
I22	<p>The holder must, as soon as possible and 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.</p>
I23	<p>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.</p>
I24	<p>Annual Inspection report</p> <p>Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.</p>
I25	<p>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.</p>
I26	<p>The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor.</p>
I27	<p>The holder must within twenty (20) business days of receipt of the annual inspection report, provide to the administering authority:</p> <ul style="list-style-type: none"> (a) the recommendations section of the annual inspection report; (b) if applicable, any actions being taken in response to those recommendations; and (c) if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within ten (10) business days of receipt of the request.

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I28	<p>Transfer arrangements</p> <p>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.</p>
I29	<p>Decommissioning and rehabilitation</p> <p>Regulated structures must not be abandoned but be either:</p> <p>(a) decommissioned and rehabilitated to achieve compliance with condition I29; or</p> <p>(b) be left in-situ for a use by the landholder provided that:</p> <ul style="list-style-type: none"> (i) it no longer contains contaminants that will migrate into the environment; and (ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and <p>(c) the holder of the environmental authority and the landholder agree in writing that the:</p> <ul style="list-style-type: none"> (i) dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and (ii) landholder is responsible for the dam, on and from an agreed date.
I30	<p>Before surrendering this environmental authority, the site must be rehabilitated to achieve a safe, stable, non-polluting landform and meet the requirements of condition H1.</p>
I31	<p>Register of regulated dams</p> <p>A Register of Regulated Structures must be established and maintained by the holder.</p>
I32	<p>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.</p>
I33	<p>The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition I11 and I12 has been achieved.</p>
I34	<p>The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.</p>
I35	<p>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.</p>
I36	<p>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 Dams, in the electronic format required by the administering authority.</p>

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I37	<p>Transitional arrangements</p> <p>All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor by 10 April 2017.</p>
I38	<p>All existing structure must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table I1 – Transitional hydraulic performance requirements for existing structures, depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.</p>
I39	<p>Table I1 – Transitional hydraulic performance requirements for existing structures ceases to apply for a structure once any of the following events has occurred:</p> <ul style="list-style-type: none"> (a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or (b) it has been decommissioned; or (c) it has been certified as no longer being assessed as a regulated structure.
I40	<p>Certification of the transitional assessment required by I37 and I38 must be provided to the administering authority by 10 April 2017.</p>

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Table I1 – Transitional hydraulic performance requirements for Existing Structures

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams (ESR/2016/1933 Version 5.0)</i>			
Compliance with Criteria	High	Significant	Low
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years.
>70% – ≤90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50 – ≤70%	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
≤50%	Within 5 years or as per compliance requirements (e.g. TEP timing)	Within 5 years or as per compliance requirements (e.g. TEP timing)	Review consequence assessment every 5 years.
Regulated levee designed to prevent the ingress of clean flood water <100% compliant	Within 5 years unless otherwise agreed with the administering authority.		

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Schedule J: Nature conservation and biodiversity	
Condition number	Condition
J1	<p>Biodiversity Offsets - Queensland Biodiversity Offset Policy (Version 1.)</p> <p>Conditions J1 – J4 apply only to the Hail Creek Mine Highwall Dump and Powerline Easement Project.</p> <p>The holder of this environmental authority must provide an offset for significant residual impacts on applicable State Significant Biodiversity Values (SSBV's), in accordance with the 'Queensland Biodiversity Offset Policy (Version 1.0)'. The offset must be consistent with the requirements for an offset as identified in the revised Biodiversity Offset Strategy (BOS) and must be provided:</p> <p>(a) where a proponent-driven, land based offset is to be provided, ensure that the land based offset area is legally secured under a Voluntary Declaration under the <i>Vegetation Management Act 1999</i>, within twelve (12) months from the acceptance of Offset Area Management Plan; or</p> <p>(b) where an offset payment is to be provided, provide payment to the administering authority's offset account no more than thirty (30) days from the acceptance of the BOS.</p>
J2	The holder of the environmental authority must provide a 100m buffer from the boundary of the proposed Offset Area to mining activities as shown in Schedule 1 - Figure 1 .
J3	Where a land based offset is to be provided, the holder of the environmental authority must not conduct any disturbance in the Offset Area except as provided for in the Offset Management Plan.
J4	Where a land based offset is to be provided, prior to the surrender of this environmental authority pursuant to the <i>Environmental Protection Act 1994</i> , the holder of the environmental authority must ensure that the Offset Area is legally secured to the title of the land (presently described as Lot 17 SP236270) which underlies the Offset Area.
J5	<p>Biodiversity offsets – Queensland Environmental Offsets Policy Version 1.1 (December 2014)</p> <p>Conditions J5 – J11 apply only to the Hail Creek Mine Transition Project.</p> <p>Significant residual impacts to prescribed environmental matters, are only authorised to occur if:</p> <p>(a) for the prescribed environmental matters specified in Table J1 – Authorised impacts to prescribed environmental matters, the impacts occur at the location(s) specified for that prescribed environmental matter in Schedule 1 - Figures 3-7; and</p> <p>(b) for the prescribed environmental matter specified in Table J1 – Authorised impacts to prescribed environmental matters, the impacts do not exceed the maximum extent of impact specified for that prescribed environmental matter.</p>

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J6	An environmental offset made in accordance with the <i>Environmental Offsets Act 2014</i> and 'Queensland Environmental Offsets Policy (Version 1.1)' must be delivered for each impact specified in Table J1 – Authorised impacts to prescribed environmental matters as requiring an environmental offset and in accordance with J7 .
J7	<p>Offset may be delivered in stages</p> <p>The impacts to prescribed environmental matters authorised in condition J5 for which an offset is required by condition J6 may be carried out in stages. An environmental offset can be delivered for each stage of the impacts to prescribed environmental matters.</p>
J8	<p>At least thirty (30) days prior to submission of the notice of election for each stage, a report, that includes an analysis of the following matters, must be provided to the administering authority:</p> <ul style="list-style-type: none"> (a) the anticipated maximum extent of impact to each prescribed environmental matter for the forthcoming stage; and (b) the actual extent of impact on each prescribed environmental matter from the previous stage, if applicable.
J9	The notice of election must be provided to the administering authority no less than three (3) months before the proposed commencement of each stage.
J10	<p>If a financial offset payment is to be provided for any stage of the Hail Creek Transition Project impacts, the payment must be provided to the administering authority's offset account no more than thirty (30) days from the acceptance of the notice of election.</p> <p><i>Note: As per section 2.4.2 'Biodiversity Offsets Policy Version 1.1 December 2014' – The agreed financial settlement amount to be paid in full and within an agreed timeframe in which the payment will be made, will be specified in the agreed delivery arrangement. Where there is a lengthy lag time of eighteen (18) months or more between agreement of the financial settlement amount and payment, the agreed amount will need to be recalculated using the Financial Settlement Offset Calculator to account for any changes, such as fluctuations in CPI.</i></p>
J11	<p>Monitoring and Reporting</p> <p>No more than six (6) months after the completion of the final stage, a report that includes the following matters must be provided to the administering authority:</p> <ul style="list-style-type: none"> (a) an analysis of the actual extent of impacts on prescribed environmental matters resulting from the previous stage; and (b) where relevant, a notice of election to address any outstanding offset debits for the authorised activities.

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Table J1 – Authorised impacts to prescribed environmental matters

Prescribed Environmental Matter	Total Maximum Extent of Impact (ha)	Environmental Offset Required
Regulated vegetation		
<i>Of concern regional ecosystem – 11.3.2</i>	355	Yes
<i>Of concern regional ecosystem – 11.3.4</i>	241.31	Yes
<i>Of concern regional ecosystem – 11.4.2</i>	1.91	No
<i>Of concern regional ecosystem – 11.9.7</i>	1,524.04	Yes
<i>Of concern regional ecosystem that intersects a wetland – 11.3.2</i>	0.5	Yes
<i>Least concern regional ecosystem that intersects a wetland – 11.3.27</i>	18.5	Yes
<i>Of concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.3.2</i>	30	Yes
<i>Of concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.3.4</i>	35.49	Yes
<i>Of concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.9.7</i>	58.6	Yes
<i>Least concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.3.25</i>	31.4	Yes
<i>Least concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.3.27</i>	2.5	Yes
<i>Least concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.9.2</i>	9	Yes
<i>Least concern regional ecosystem within a defined distance from the defining banks of a relevant watercourse – 11.9.9</i>	89.04	Yes
<i>Essential habitat</i>	4.98	No
Connectivity Areas		
<i>Connectivity area</i>	3,937.8	Yes
Protected wildlife habitat		
<i>Habitat for an animal that is vulnerable wildlife – Squatter pigeon</i>	3,896.8	Yes
	4.63*	No
<i>Habitat for an animal that is endangered wildlife – Koala</i>	3,896.8	Yes
<i>Habitat for an animal that is vulnerable wildlife – Australian Painted Snipe</i>	24.5	Yes
<i>Habitat for an animal that is vulnerable wildlife – Greater Glider</i>	13.07	Yes
<i>Habitat for an animal that is vulnerable wildlife – Ornamental Snake</i>	3.01	No
<i>Habitat for an animal that is vulnerable wildlife – Glossy Black-cockatoo</i>	25	No
<i>Habitat for an animal that is Special Least Concern wildlife – Short-beaked Echidna</i>	3,945.5	No

Notes for Table J1:

*4.63 ha of Squatter Pigeon habitat is authorised to be disturbed without the need for environmental offsets under the Queensland Environmental Offsets Policy. This is on the basis that rehabilitation for temporary exploration activities can return this matter to its pre-impact condition as required under **conditions H19, H20 and H21**. Any amendment which seeks to change the type of activities or disturbance conducted in this area must include the affected parts in the contemplation of an SRI (i.e. this approval does not exempt the EA holder from providing environmental offsets for future impacts in these areas where land cannot return to its pre-impact condition).

END OF CONDITIONS

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Definitions

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

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

‘administering authority’ is the agency 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).

‘Anniversary day’ means the anniversary day the authority is issued, whether or not it has been amended or transferred.

‘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); and
- (g) for evidence of conformance with the current operational plan.

‘annual return period’ means the most current **twelve (12) month** period between two anniversary dates.

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

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‘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 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.

‘certification’, **‘certified’**, **‘certify’** or **‘certifying’**, for regulated structures, means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor 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)).

‘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.

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'clearing' has the meaning the dictionary of the *Vegetation Management Act 2000* and for vegetation:

- (a) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining; but
- (b) does not include destroying standing vegetation by stock, or lopping a tree.

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

'construction and demolition waste' means unsegregated material (other than material containing asbestos waste or liquid waste) that results from:

- (a) the demolition, erection, construction, refurbishment or alteration of buildings, other than:
 - (i) chemical works;
 - (ii) mineral processing works;
 - (iii) container reconditioning works; and
 - (iv) waste treatment facilities;
- (b) the construction, replacement, repair, or alteration of infrastructure development such as roads, railways, tunnels, sewage, water, electricity, telecommunications, and airports; and
- (c) and includes materials such as:
 - (i) bricks, concrete, paper, plastics, glass and metal; and
 - (ii) timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP);

but does not include excavated soil (e.g. soil excavated to level off a site prior to construction or to enable foundations to be laid or infrastructure to be construction).

'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 most recent version of the 'Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)' or its successor.

'daily peak design capacity' for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2008 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.

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

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

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

‘design storage allowance’ or **‘DSA’** means an available volume, estimated in accordance with the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor 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 structure, means the certifier of the design plan for the regulated structure.

‘disturbance’ of land includes:

- (a) compacting, removing, covering, exposing or stockpiling of earth;
- (b) removal or destruction of vegetation or topsoil or both to an extent where the land has been made susceptible to erosion;
- (c) carrying out mining within a watercourse, waterway, wetland or lake;
- (d) the submersion of areas by tailings or hazardous contaminant storage and dam/structure walls;
- (e) temporary infrastructure, including any infrastructure (roads, tracks, bridges, culverts, dam/structures, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after the mining activity has ceased; or
- (f) releasing of contaminants into the soil, or underlying geological strata.

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

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

‘document’ has the meaning in the *Acts Interpretation Act 1954* and means:

- (a) any paper or other material on which there is writing; and
- (b) any paper or other material on which there are marks; and
- (c) figures, symbols or perforations having a meaning for a person qualified to interpret
- (d) them; and
- (e) any disc, tape or other article or any material from which sounds, images, writings or messages are capable of being produced or reproduced (with or without the aid of another article or device).

‘EC’ means electrical conductivity.

‘effluent’ treated wastewater released from sewage treatment plants.

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

‘environmental authority’ means this environmental authority.

‘environmental harm’ has the meaning in section 14 of the *Environmental Protection Act 1994* and means any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance.

‘environmental nuisance’ has the meaning in section 15 of the *Environmental Protection Act 1994* and means unreasonable interference or likely interference with an environmental value caused by—

- (a) aerosols, fumes, light, noise, odour, particles or smoke; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

‘environmental offset’ has the meaning of section 7 of the *Environmental Offsets Act 2014*.

‘equilibrium’ a state where ‘balance’ is achieved despite changing variables.

‘equivalent person or EP’ has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage, 2005, published by the Queensland Government. It is calculated in accordance with Schedule 2, Section 63(4) of the Environmental Protection Regulation 2008 where:

- (a) $EP = V/200$ where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or
- (b) $EP = M/2.5$ where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.

‘ERC decision’ – means a decision of the administering authority under section 300 of the Environmental Protection Act 1994 about the estimated rehabilitation cost for a resource activity.

‘ERC Period’ - for the estimated rehabilitation cost for a resource activity, means—

- (a) if a PRCP schedule applies for the activity—the period of between 1 and 5 years stated in the application for an ERC decision under section 298(2)(b); or
- (b) if the activity is a petroleum activity that is an ineligible ERA, other than a petroleum activity to which a plan of operations applies, or the activity relates to a 1923 Act petroleum tenure granted under the *Petroleum Act 1923*—the period of between 1 and 5 years stated in the ERC decision about the estimated rehabilitation cost; or
- (c) if a plan of operations applies for the activities—the plan period for the plan of operations; or
- (d) otherwise—the total period during which the resource activity is likely to be carried out under the environmental authority for the activity.

‘Estimated rehabilitation cost’ - for a resource activity, see section 300(2) of the *Environmental Protection Act 1994*.

‘existing authority’ has the meaning in section 94 of the *Environmental Offsets Act 2014*.

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‘existing structure’ means a structure that was in existence prior to (insert date of EA the adoption of this schedule of conditions under the authority) meets any or both of the following, a structure:

- (a) with a design that is in accordance with the version 5.0 of Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (ESR/2016/1933) and that is considerably in progress; and
- (b) that is under considerable construction or that is constructed.

‘exploration activities’ includes exploration drilling, low level clearing, access tracks, excavation, sumps, rehabilitation of boreholes, surface water monitoring and groundwater monitoring.

‘extreme storm storage’ – means a storm storage allowance determined in accordance with the criteria in the latest version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor published by the administering authority.

‘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.

‘functionality’ the purpose that something is designed or expected to fulfil.

‘GDA’ means Geocentric Datum of Australia.

‘ha’ means hectares.

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

‘hazard category’ means a category, either low significant or high, into which a dam is assessed as a result of the application of tables and other criteria in “Manual for Assessing Hazard Categories and Hydraulic Performance of Dams”, prepared by the Department of Environment and Heritage Protection, as amended from time to time.

‘holder of this environmental authority’ means the 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 most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor.

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

‘ $L_{A1, Adj, 15min}$ ’ means the A-weighted sound pressure level, adjusted for tonal character, that which is exceeded for 1% of any 15 minute period.

‘ L_{A90} ’ means the A-weighted sound pressure level that has been exceeded for 90% of the sample period.

‘ $L_{Aeq, Adj 15 min}$ ’ means the A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within any 15 minute period has the same square sound pressure as a sound level that varies with time.

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‘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.

‘licensed place’ means the mining activities carried out at the mining tenements detailed in page 1 of this environmental authority.

‘low consequence dam’ means any dam that is not a high or significant consequence category as assessed using the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor.

‘m’ means metres.

‘mandatory reporting level’ or **‘MRL’** means a warning and reporting level determined in accordance with the criteria in the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor published by the administering authority.

‘manual’ means the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor published by the administering authority.

‘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 measure 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’ has the meaning defined in the *Mineral Resources Act 1989*.

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‘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; and
 - 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 2) a) and b) above.

‘minimise’ is to reduce to the smallest possible amount or degree.

‘modification’ or ‘modifying’ (see definition of ‘construction’)

‘NAPP’ means Net Acid Producing Potential.

‘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*.

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‘operational plan’ includes:

- (a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance); and
- (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’ or **‘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).

‘prescribed environmental matters’ has the meaning in section 10 of the *Environmental Offsets Act 2014*, limited to Matters of State Environmental Significant 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 maybe, caused. The receiving environment includes (but is not limited to):

- (a) a watercourse;
- (b) groundwater and
- (c) an area of land that is not specified in Figures 3a and 3b of this environmental authority.

The term does not include land that is specified in Figures 3a and 3b of this environmental authority.

‘Receiving waters’ means the waters into which this environmental authority authorises releases of mine affected water.

‘regional ecosystem’ has the meaning in the Methodology for Surveying and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Version 3.2 August 2012) and means a vegetation community in a bioregion that is consistently associated with a particular combination of geology, landform and soil. Regional ecosystems of Queensland were originally described in Sattler and Williams (1999). The Regional Ecosystem Description Database (Queensland Herbarium 2013) is maintained by Queensland Herbarium and contains the current descriptions of regional ecosystems.

‘Register of Regulated Structures’ includes:

- (a) date of entry in the register;
- (b) name of the dam, its purpose and intended/actual contents;
- (c) the consequence category of the dam as assessed using the most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor;
- (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;

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- (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); and
- (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; and
- (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 most recent version of the ‘Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)’ or its successor published by the administering authority. A regulated structure does not include:

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

‘rehabilitation’ the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land.

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

‘reporting limit’ means the lowest concentration that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes, the reporting limit is selected as the lowest non-zero standard in the calibration curve. Results that fall below the reporting limit will be reported as “less than” the value of the reporting limit. The reporting limit is also referred to as the practical quantitation limit or the limit of quantitation. For polycyclic aromatic hydrocarbons, the reporting limit must be based on super-ultra-trace methods and, depending on the specific polycyclic aromatic hydrocarbon, will range between 0.005 ug/L–0.02 ug/L.

‘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.

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‘Resource activity’ is an activity that involves—

- (a) a geothermal activity; or
- (b) a GHG storage activity; or
- (c) a mining activity; or
- (d) a petroleum activity.

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

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

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

‘scheme fund’ means the scheme fund established under section 24 of *the Mineral and Energy Resources (Financial Provisioning) Act 2018*.

‘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 Environmental Protection (Noise) Policy 2008. 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, 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.

¹Not including a species declared under the *Land Protection (Pest and Stock Route Management) Regulation 2003* as a category class 1 pest, category class 2 pest or category class 3 pest.

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'stable' has the meaning in Schedule 5 of the Environmental Protection Regulation 2008 and, for a site, means the rehabilitation and restoration of the site is enduring or permanent so that the site is unlikely to collapse, erode or subside.

'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*, who has an appropriate level of expertise in the structures, geomechanics, hydrology, hydraulics and environmental impact of watercourse diversions.

Demonstrated competency and relevant experience:

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

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

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

'the Act' means the *Environmental Protection Act 1994*.

' μ S/cm' means micro siemens per centimetre.

'valid complaint' means all complaints unless considered by the administering authority to be frivolous, vexatious or based on mistaken belief.

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

'waste' is defined under section 13 of the *Environmental Protection Act 1994*.

'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:

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

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

'water year' means the **twelve (12) month** period from **1 July** to **30 June**.

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

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“**WaTERS**” means the administering authority’s Water Tracking and Electronic Reporting System.

‘**water year**’ means the **twelve (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.

End of Definitions

Schedule 1: Figures

Figure 1: Hail Creek Mine Offset Area

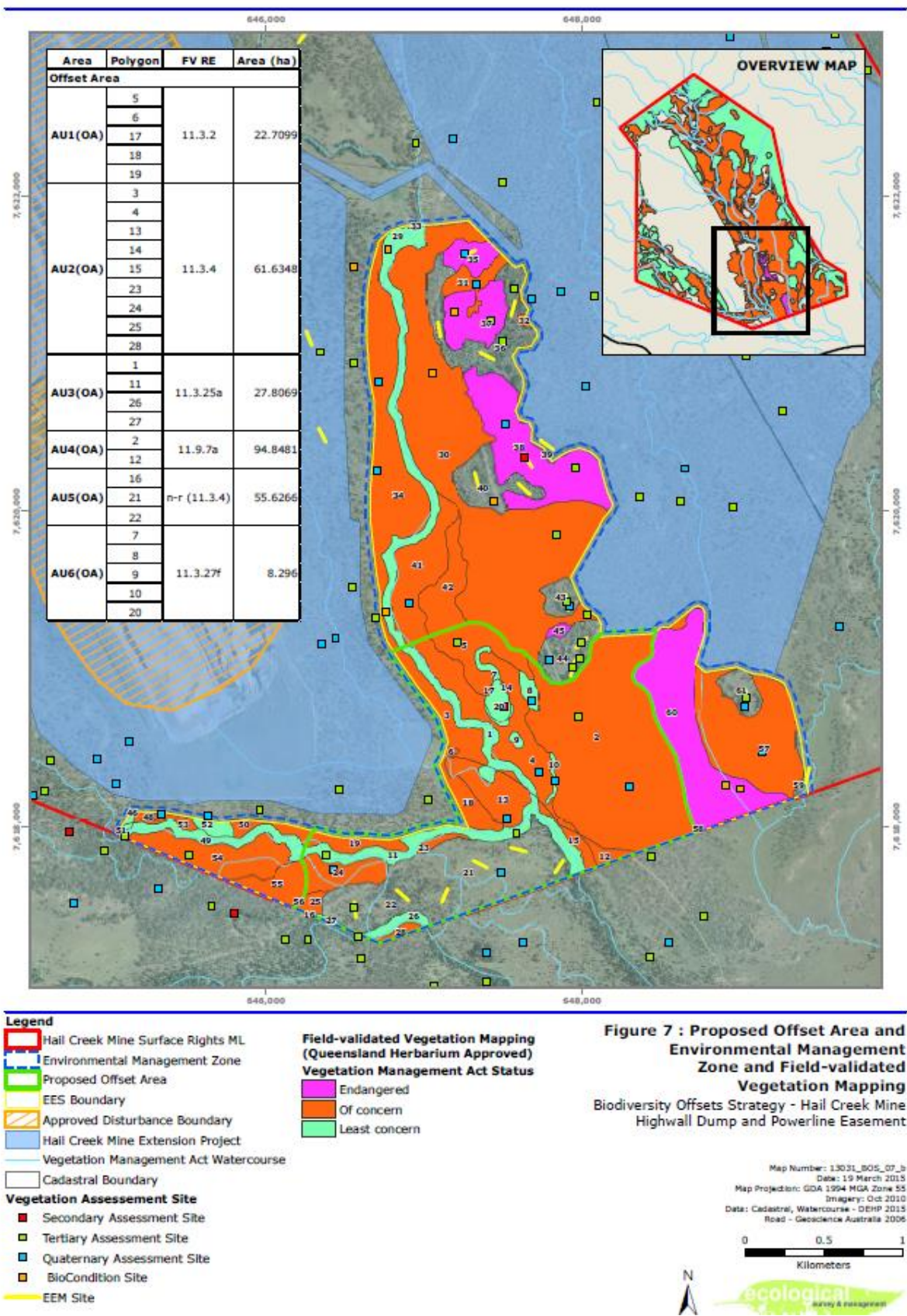


Figure 2a: Hail Creek Mine – Authorised Extent of Disturbance

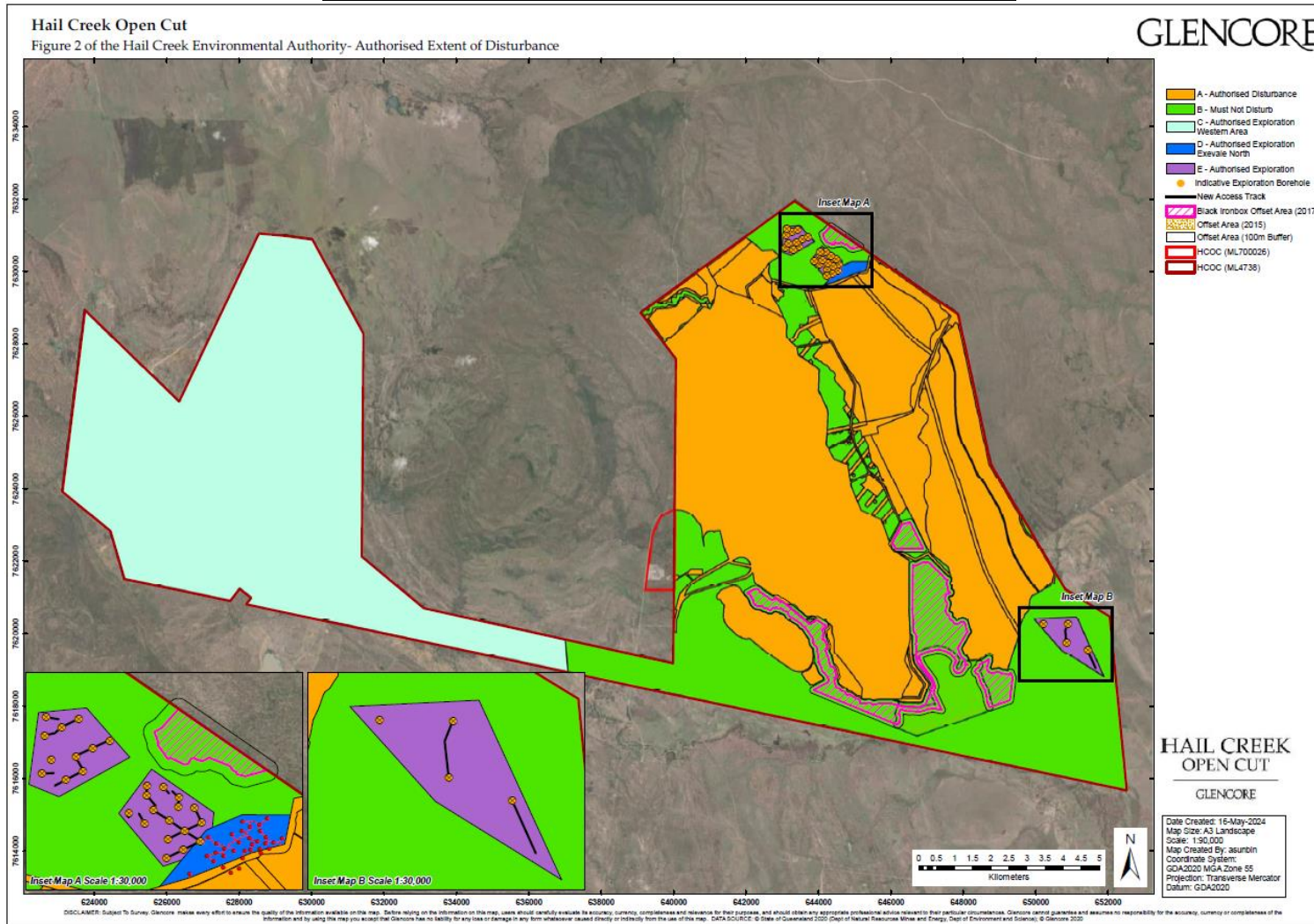


Figure 2b: Hail Creek West – Authorised Extent of Disturbance

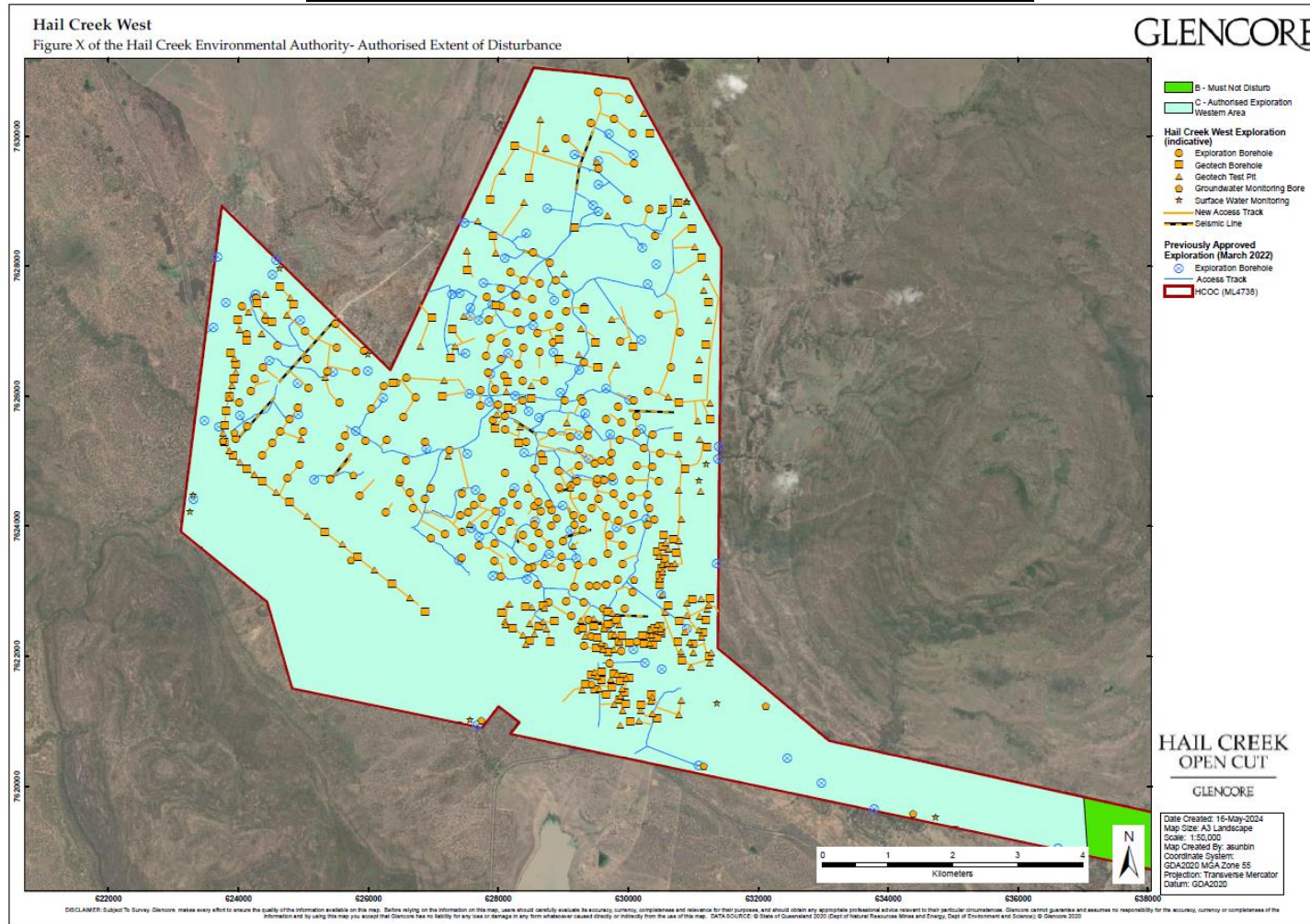
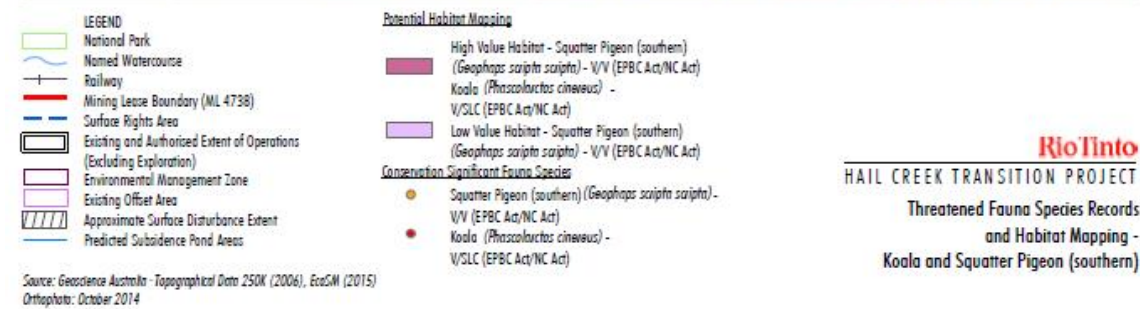
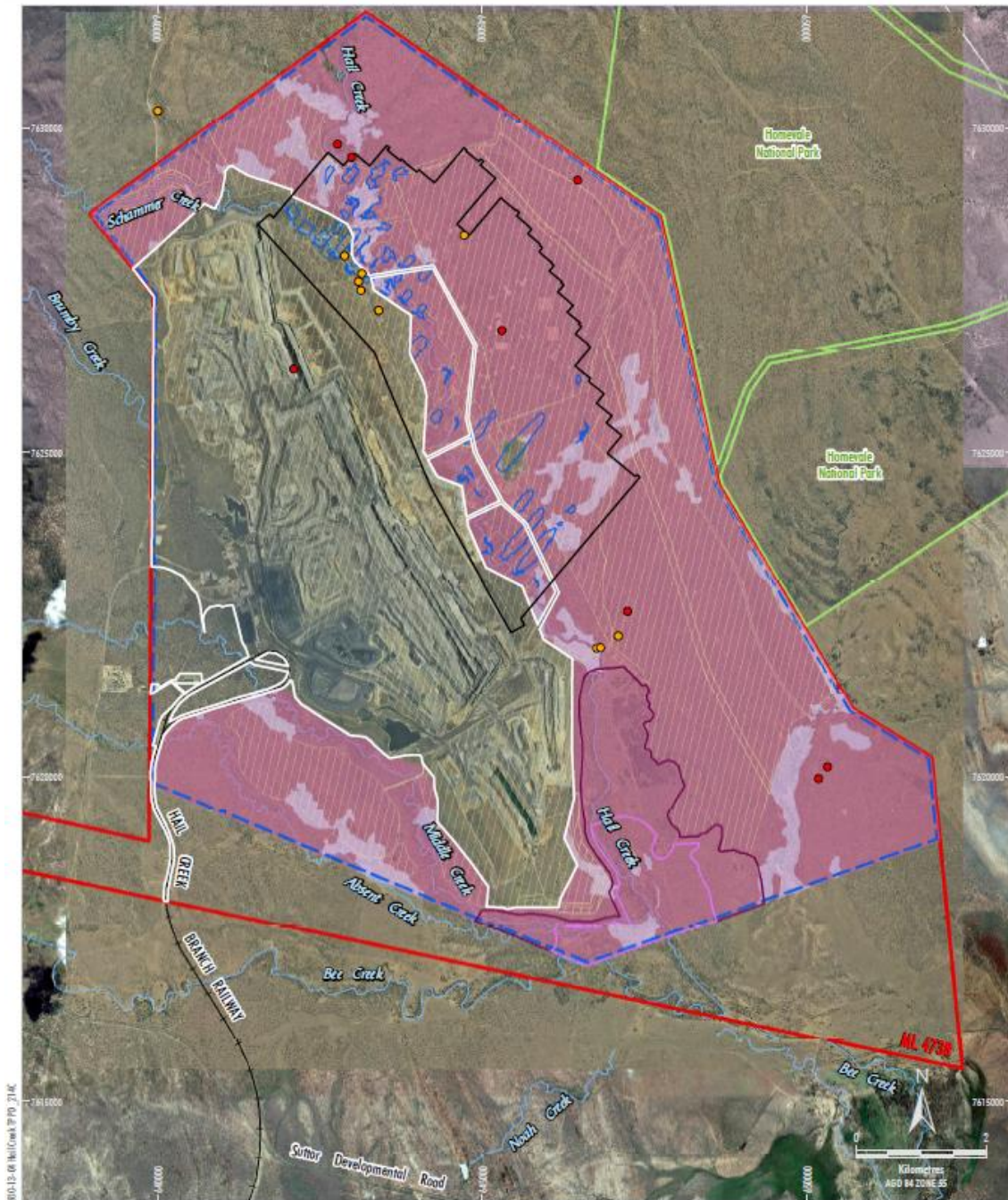
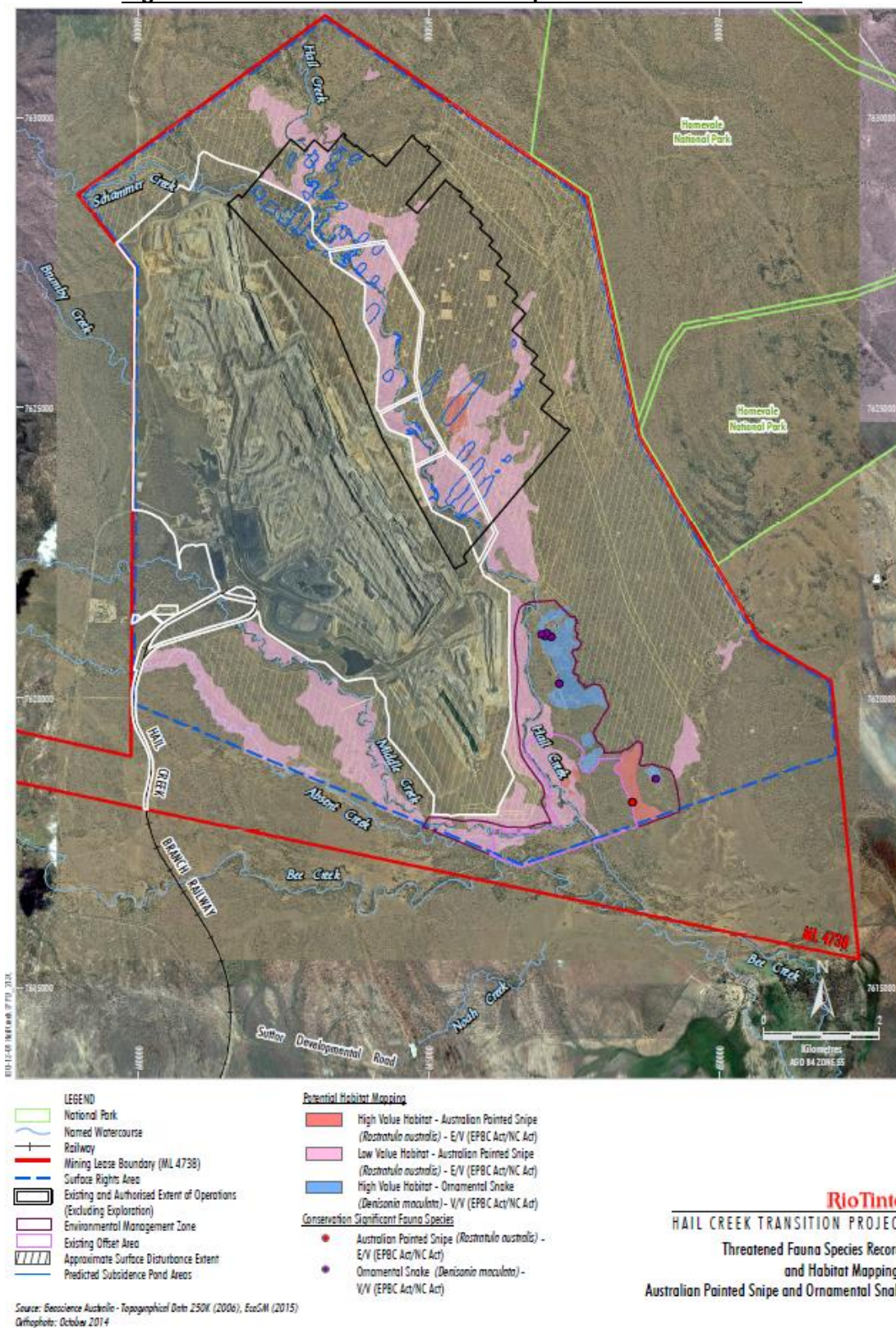


Figure 3: Habitat Koala and Squatter Pigeon



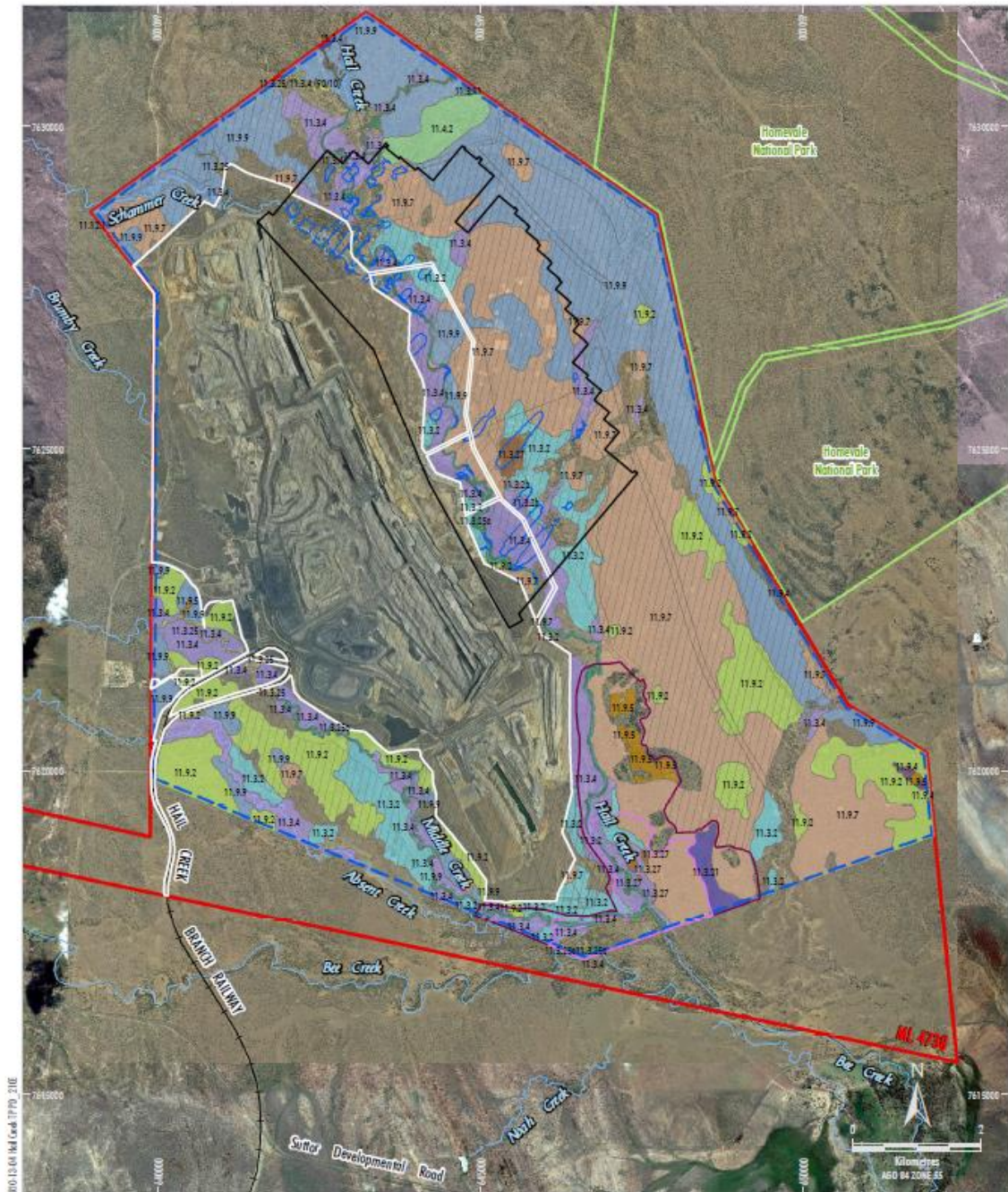
Note: Any inconsistencies with approximate surface disturbance extent and the authorised extent of disturbance in Figure 2a, Figure 2a prevails to the extent of the inconsistencies (portions of this area is 'do not disturb' areas as part of the Offset 'swap' strategy (2021 EA amendment))

Figure 4: Habitat Australian Painted Snipe and Ornamental Snake



Note: Any inconsistencies with approximate surface disturbance extent, and the authorised extent of disturbance in Figure 2a, Figure 2a prevails to the extent of the inconsistencies Figure 2a prevails (portions of this area is 'do not disturb' areas as part of the Offset 'swap' strategy (2021 EA amendment))

Figure 5: Regional Ecosystems



- LEGEND**
- National Park
 - Named Watercourse
 - Railway
 - Mining Lease Boundary (ML 4738)
 - Surface Rights Area
 - Existing and Authorised Extent of Operations (Excluding Exploration)
 - Environmental Management Zone
 - Existing Offset Area
 - Approximate Surface Disturbance Extent
 - Predicted Subsidence Pond Areas

- Regional Ecosystems**
- 11.12.1
 - 11.3.11
 - 11.3.2
 - 11.3.21
 - 11.3.25
 - 11.3.25/11.3.4 (PQ/10)
 - 11.3.25b
 - 11.3.27
 - 11.3.2b
 - 11.3.4
 - 11.4.2
 - 11.9.2
 - 11.9.4
 - 11.9.5
 - 11.9.7
 - 11.9.9

Source: Geoscience Australia - Topographical Data 250K (2006), EcoSM (2015)
 Orthophoto: October 2014

Rio Tinto
HAIL CREEK TRANSITION PROJECT
 Field-validated Regional Ecosystems

Note: Any inconsistencies with approximate surface disturbance extent, and the authorised extent of disturbance in Figure 2a, Figure 2a prevails to the extent of the inconsistencies (portions of this area is 'do not disturb' areas as part of the Offset 'swap' strategy (2021 EA amendment))

Figure 6: Hail Creek West Project – MSES

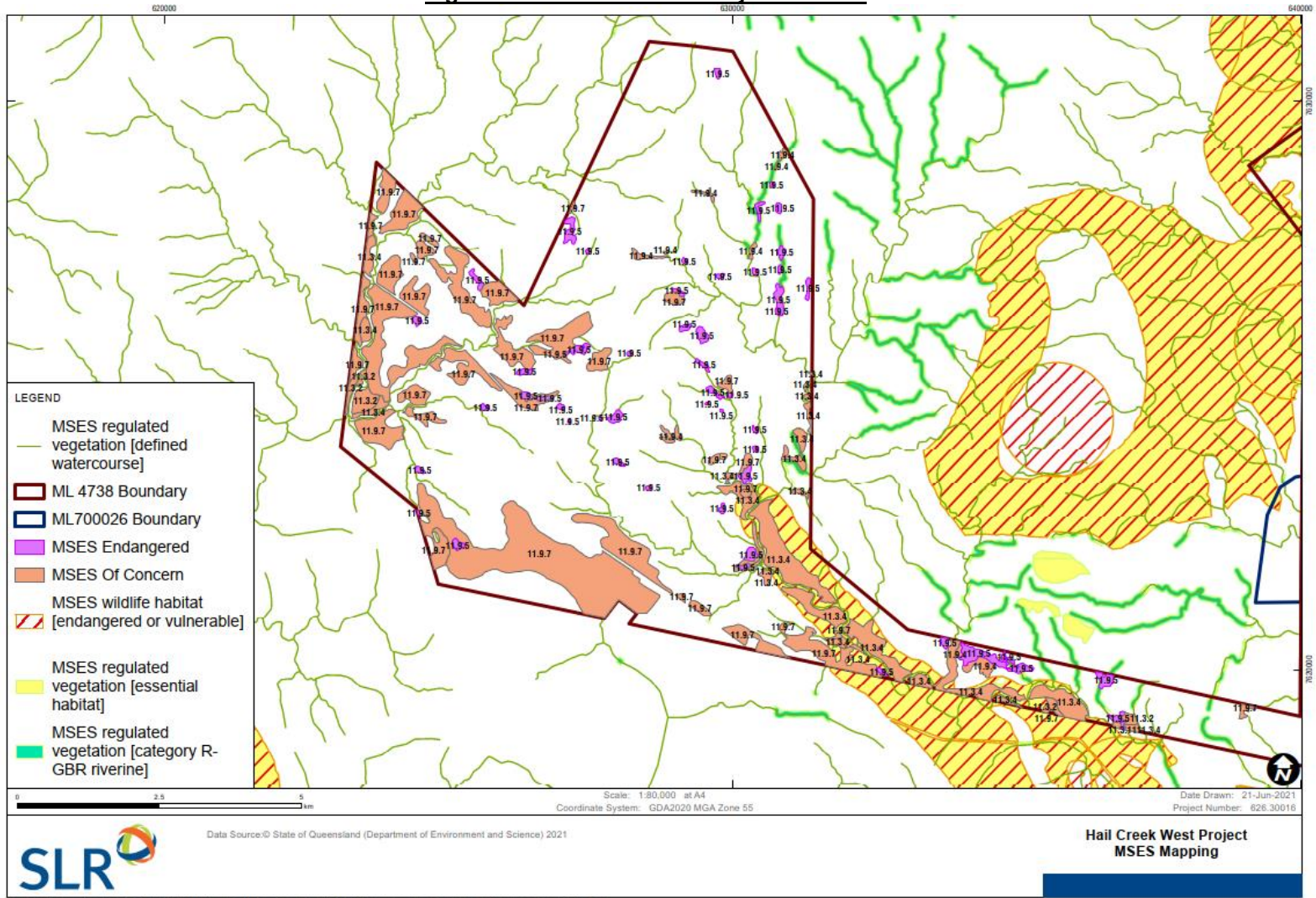
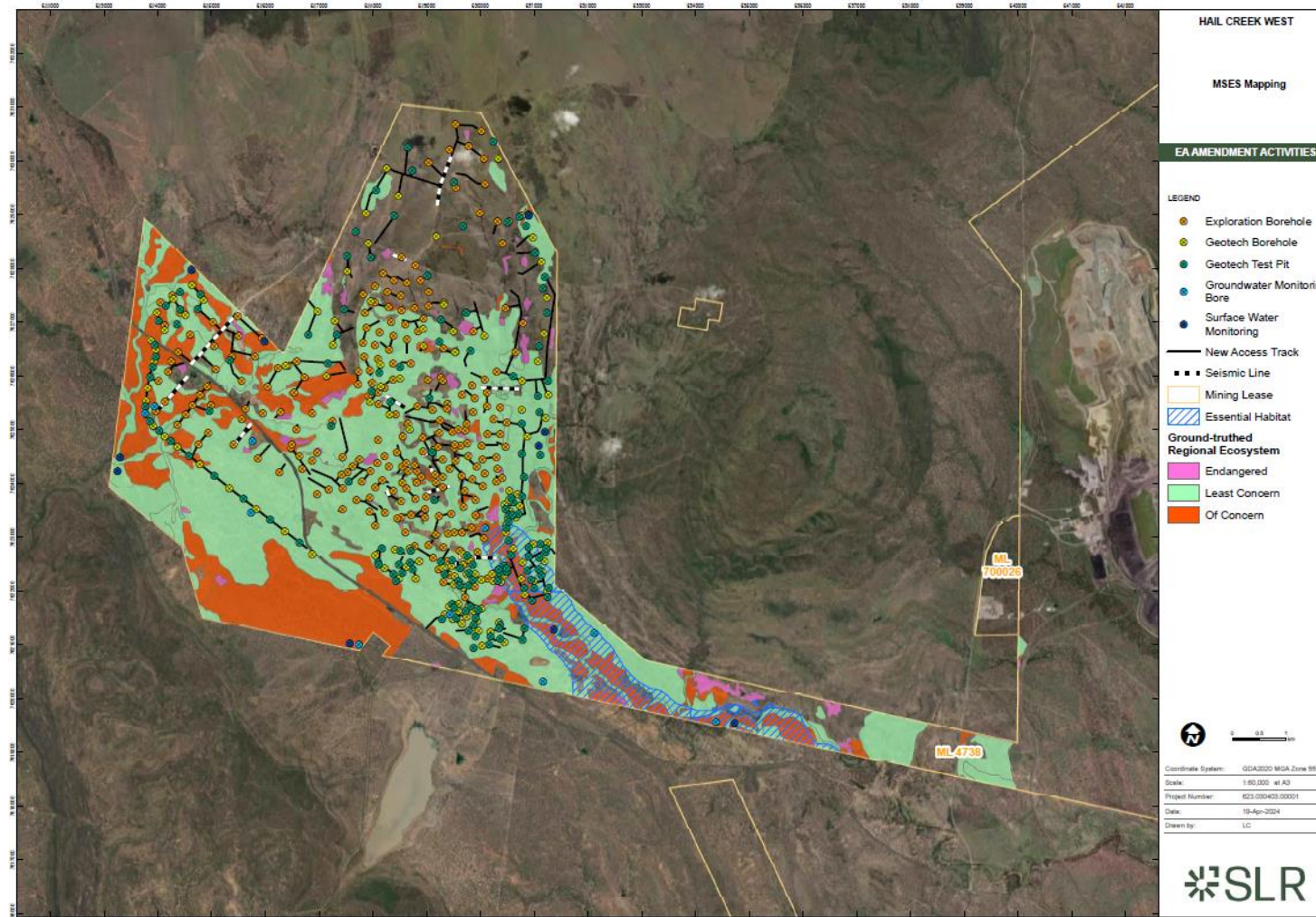


Figure 7: Hail Creek West Project – MSES Indicative Impacts



END OF ENVIRONMENTAL AUTHORITY