

Permit

Environmental Protection Act 1994

Environmental authority P-EA-100265081 Vulcan South Coal Mine

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

Environmental authority number: P-EA-100265081

Environmental authority takes effect on the date that your relevant tenure is granted. This is the take effect date.

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

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

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

Transfers of this environmental authority are not authorised.

Environmental authority holder(s)

Name(s)	Registered address
Queensland Coking Coal Pty Ltd	Level 6, Suite 2, 12 Creek Street, Brisbane QLD 4000
Qld Coal Aust No.1 Pty Ltd	

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3, 13: Mining black coal	ML700073
Ancillary 31 - Mineral processing 2: processing, in a year, the following quantities of mineral products, other than coke— (b) more than 100,000t	ML700073
Ancillary 33 - Crushing, grinding, milling or screening more than 5,000t of material in a year	ML700073

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 *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

The anniversary day of this environmental authority is the same day each year as the effective date. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April. 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.

Juliana McCosker

Department of Environment, Science and Innovation

Delegate of the administering authority

*Environmental Protection Act 1994*Issued: **5 April 2024****Enquiries:**

Business Centre (Coal)

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Phone: (07) 4987 9320

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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment, Science and Innovation to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

Schedule A: General	
Condition number	Condition
A1	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused, or likely to be caused, by the authorised activities.
A2	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A3	Unless specifically authorised by a condition of this environmental authority, this environmental authority does not authorise a relevant act which is: <ul style="list-style-type: none"> a) an act that causes serious or material environmental harm or an environmental nuisance; or b) an act that contravenes a noise standard; or c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG of the <i>Environmental Protection Act 1994</i>.
A4	<p>Authorised activities</p> <p>The environmental authority holder is approved to extract up to 1.95 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal within ML700073 in accordance with this environmental authority.</p>
A5	<p>In carrying out the authorised activity, disturbance must not exceed the total maximum disturbance area for each mining area listed in Table A1. Maximum disturbance area for each mining area,¹ as shown in Figure A1 – Maximum disturbance areas.</p> <p>¹The maximum disturbance area does not include exploration conducted in accordance with condition A7 or groundwater, air and noise monitoring activities conducted in accordance with this environmental authority.</p>
A6	<p>In carrying out the authorised activity, disturbance must not occur outside the maximum disturbance area depicted in Figure A2, Project Layout – Authorised Disturbance Areas.¹</p> <p>Notes: ¹Exploration and groundwater monitoring activities can be undertaken outside of the maximum disturbance area shown in Figure A2, Project Layout – Authorised Disturbance Areas within the tenure boundary, excluding in areas of Matters of State Environmental Significance (MSES) that are not authorised to be impacted under condition H1.</p> <p>A buffer has been provided for in Figure A2, Project Layout – Authorised Disturbance Areas to the areas of maximum disturbance relevant to condition A5. The environmental authority only authorises disturbance to the extent of areas stated in Table A1 – Maximum disturbance area for each mining area, notwithstanding the note to condition A5.</p>

Table A1 – Maximum disturbance area for each mining area

Mining area	Maximum disturbance (ha)
CHPP	4.8
Ex-pit Dump	191.7
In-pit Dump	405.3
Haul Roads	152.2
Water Management Infrastructure	94.1
Highwall Mining Bench	44.2
Highwall Plunge	131.2
Highwall Rock Dump	4.3
Magazine	9.2
MIA	86
Dams	20.9
Access Roads	24.5
Rail Loop	49.4
Total disturbance authorised	1217.9ha
Existing Rail*	27.2
Saraji Road Corridor*	36.3

* Existing infrastructure

A7	Disturbance due to exploration activities in areas not scheduled to be mined must be rehabilitated within six (6) months of completion and in accordance with rehabilitation provisions detailed in the latest version of the ' <i>Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects</i> ' (ESR/2016/1985).
A8	In accordance with condition A4 , within twenty (20) business days of 30 June each year, the environmental authority holder must report to the administering authority the tonnes of ROM coal produced in the previous calendar year.
A9	<p>Contravention of conditions</p> <p>Unless specifically authorised by a condition of this environmental authority, details of any contravention of a condition of this environmental authority must:</p> <ol style="list-style-type: none"> be reported to the administering authority within twenty-four (24) hours of becoming aware of the contravention; and include the nature and circumstances of the contravention and any immediate actions taken.

A10	As soon as reasonably practicable but no later than twenty (20) business days of a report made under condition A9(a) (or a longer period agreed to in writing by the administering authority), an investigation report must be submitted to the administering authority detailing: <ul style="list-style-type: none"> a) the potential circumstances and actions that may have contributed to the contravention; and b) reasonable and practicable measures that will be implemented to address the cause of the contravention to prevent future contraventions of this nature and to address any actual or potential environmental harm.
A11	As soon as reasonably practicable but no later than twenty (20) business days after submitting the report required under condition A10 (or a longer period agreed to in writing by the administering authority), the measures identified under condition A10(b) must be implemented.
A12	The measures implemented under condition A11 must be recorded.
A13	Complaints The following details must be recorded for all complaints received and provided to the administering authority upon request: <ul style="list-style-type: none"> a) date and time the complaint was received; and b) if authorised by the person making the complaint, their name and contact details; and c) nature and details of the complaint.
A14	As soon as reasonably practicable but no later than five (5) business days of receiving a complaint under condition A13 (or a longer period agreed to in writing by the administering authority), an investigation must be undertaken to determine: <ul style="list-style-type: none"> a) the potential circumstances and actions on site that may have contributed to the basis of the complaint; and b) reasonable and practicable measures that will be implemented to address the complaint.
A15	As soon as reasonably practicable but no later than five (5) business days of investigating a complaint under condition A14 (or a longer period agreed to in writing by the administering authority), measures identified in the investigation must be implemented under condition A14 .
A16	The outcome of the investigation carried out under condition A14 and the measures implemented under condition A15 must be recorded and provided to the administering authority upon request.

A17	<p>Environmental risk management procedures</p> <p>Written procedures must be developed prior to the commencement of authorised activities and implemented by an appropriately qualified person that ensure:</p> <ul style="list-style-type: none"> a) all potential risks to the environment from the carrying out of the activity are identified and assessed, including: <ul style="list-style-type: none"> i. during routine operations; and ii. outside routine operations (e.g., maintenance, start up and shut down); and iii. during preparation, rehabilitation, and closure; and iv. in an emergency (e.g., fire, flood or other natural disaster); and b) for each potential risk identified, any necessary measures to prevent or minimise the potential for environmental harm are implemented; and c) staff understand their obligations under this environmental authority and the <i>Environmental Protection Act 1994</i>; and d) environmental risk management procedures are continually reviewed and improved, based on best practice management.
A18	<p>Maintenance of plant and equipment</p> <p>The environmental authority holder must:</p> <ul style="list-style-type: none"> a) install all reasonable and practicable measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; b) maintain such measures, plant and equipment in a proper and efficient condition; c) operate such measures, plant and equipment in a proper and efficient manner; and d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
A19	Records of installation, calibration and maintenance carried out under condition A18 must be kept.
A20	<p>Record keeping</p> <p>Unless otherwise specified by a condition of this environmental authority, records must be:</p> <ul style="list-style-type: none"> a) kept for the period outlined in Table A2 – Record keeping requirements; and b) provided to the administering authority upon request and in the format requested.

Table A2 – Record keeping requirements

Description of records	Retention requirement
Monitoring results	Retain for 9 years
All other records	Retain for 5 years

A21	<p>Plans, reports and programs</p> <p>Any plans, reports or programs required by a condition of this environmental authority must be developed and reviewed by an appropriately qualified person.</p>
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A22	<p>Upon request from the administering authority, copies of all records, plans, and other documentation required by the conditions of this environmental authority must be made available and provided to the administering authority within:</p> <ul style="list-style-type: none"> a) ten (10) business days; or b) an alternative timeframe agreed between the administering authority and the environmental authority holder.
A23	<p>Within twenty (20) business days; or an alternative timeframe agreed between the administering authority and the environmental authority holder, of receiving comments from the administering authority on any document, the document must:</p> <ul style="list-style-type: none"> a) be updated by an appropriately qualified person having regard to the comments; and b) re-submitted to the administering authority.
A24	<p>All plans and programs required by this environmental authority are to be published on the environmental authority holder's website within twenty-eight (28) business days of completion.</p>
A25	<p>Monitoring and sampling</p> <p>All monitoring and sampling required by the conditions of this environmental authority must be carried out, interpreted, and recorded by an appropriately qualified person.</p>
A26	<p>Unless otherwise authorised in writing by the administering authority, all laboratory analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) accreditation for such analyses, with the exception of in situ monitoring of dissolved oxygen, temperature, pH, electrical conductivity and turbidity.</p>
A27	<p>Third-party reporting</p> <p>The holder of this environmental authority must:</p> <ul style="list-style-type: none"> a) within one year of the commencement of authorised activities obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; and b) obtain further such reports at regular intervals, not exceeding two (2) yearly intervals, from the completion of the report required by A27(a); and c) provide each report to the administering authority within ninety (90) days of its completion.
A28	<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, the time specified in that condition; and b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

A29	<p>Notification of commencement of authorised activities</p> <p>The holder of this environmental authority must provide the administering authority with a date in writing for when authorised activities commence under this environmental authority no later than fourteen (14) days after the commencement of authorised activities.</p>
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Schedule B: Air	
Condition number	Condition
B1	Authorised activities must not result in an exceedance of the air quality limits in Table B1 - Ambient air quality limits at a sensitive place.
B2	Air emissions and meteorological conditions must be monitored in accordance with Table B1 – Ambient air quality limits at the frequency stated in Table B1 – Ambient air quality limits .
B3	The monitoring carried out in accordance with condition B2 must commence prior to the commencement of authorised activities.

Table B1 —Ambient air quality limits

Monitoring locations	Air Quality Determination/ Indicator	Air quality limit	Averaging period	Frequency	Monitoring standard
All sensitive places within 6km of mine site*	Particulate matter less than 10µm in aerodynamic diameter (PM ₁₀)	50µg/m ³	24-hour	Continuous	AS3580.9.8 <i>Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 continuous direct mass method using tapered element oscillating microbalance analyser.</i>
All sensitive places within 6km of mine site*	Dust deposition	120 mg/m ² /day	Monthly	Monthly	AS3580.10.1 <i>Methods for sampling and analysis of ambient air—Determination of particulate matter — Deposited matter – Gravimetric method.</i>
Weather Station	Meteorological data (including but not limited to wind speed and direction, relative humidity, temperature, precipitation and rainfall intensity, solar radiation)	N/A	Continuous (minimum 1-hour average)	Continuous	<ol style="list-style-type: none"> Monitoring by automatic meteorological station(s) Australian Standard AS3580.14 <i>Methods for sampling and analysis of ambient air – Meteorological monitoring for ambient air quality monitoring applications; or</i> an alternative method approved by the administering authority.

*OR at a monitoring location representative (whether by reason of correlation or otherwise) of the sensitive place (where no measure at the sensitive place is agreed with the owner of the sensitive place).

B4	<p>Air quality monitoring exceedance</p> <p>If air quality monitoring indicates an exceedance of any relevant limit in Table B1 – Ambient air quality limits, dust abatement measures must be immediately implemented in accordance with the Air Emissions Management Plan required under condition B8, to minimise any adverse impacts to the sensitive place and to limit further exceedances.</p> <p><i>NOTE: Exceedances due to events that cannot be managed by the environmental authority holder, such as bushfires, fuel reduction burning for fire management purposes or dust storms, would not be considered to be in breach of condition B4 if the environmental authority holder can demonstrate that the exceedance was caused by such events.</i></p>
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B5	The environmental authority holder must determine if an exceedance recorded under condition B4 is a result of the authorised activities being undertaken.
B6	<p>A report must be provided to the administering authority within ten (10) business days of an exceedance in the air quality limits of Table B1 – Ambient air quality limits that is a result of authorised activities being undertaken as determined under condition B5. The report must detail:</p> <ul style="list-style-type: none"> a) the air quality data at the sensitive place; b) a description of meteorological conditions recorded in accordance with Table B1 – Ambient air quality limits occurring at the time; c) the air quality data upwind of the authorised activities (if known); d) measures taken to reduce dust generated by the authorised activities including those undertaken under condition B4; and e) the contribution of the authorised activities to the PM₁₀ concentration and dust deposition at the sensitive place.
B7	<p>The air quality monitoring required by condition B2 remains effective and targeted through the life of the project with the monitoring locations reviewed annually. The annual review should consider:</p> <ul style="list-style-type: none"> a) the frequency and cause of any exceedances of air quality limits measured by the air quality monitoring program conducted under this environmental authority over at least the preceding two (2) years; b) dust complaints; c) future progression of the mining activity; d) locations of sensitive and commercial places relative to the mining activity; and e) mining activity types.
B8	<p>Air Emissions Management Plan</p> <p>An Air Emissions Management Plan must be developed by an appropriately qualified person and implemented for all stages of the authorised activity and submitted to the administering authority on, or before the commencement of authorised activities.</p>
B9	<p>The Air Emissions Management Plan required by condition B8 must incorporate a program for continuous improvement for the management of dust and particulate matter resulting from the authorised activities with respect to, but not limited to:</p> <ul style="list-style-type: none"> a) the collection of air quality and meteorological data at locations and using the monitoring methods described in Table B1 – Ambient air quality limits; and b) a system to identify adverse meteorological conditions likely to produce elevated levels of dust deposition, PM₁₀ at a sensitive place due to the authorised activities; and c) a dust and particulate matter control strategy which: <ul style="list-style-type: none"> (i) activates a timely implementation of management control action; (ii) acts in response to the system required by condition B9(b); (iii) acts in response to any air quality monitoring that indicates a potential for an exceedance of the air quality limits of Table B1 – Ambient air quality limits.
B10	The Air Emissions Management Plan required by condition B8 must be reviewed every three (3) years by an appropriately qualified person and any recommendations incorporated into the Air Emissions Management Plan.

B11	<p>Dust control - trafficable and rail areas</p> <p>Trafficable and rail areas (including entry and exit points from Saraji Road, the rail loop and the train load out facility) must be maintained using all reasonable and practicable measures necessary to minimise the release of windblown or traffic generated dust to the atmosphere.</p>
B12	<p>Dust management – coal transport</p> <p>The environmental authority holder must take all reasonable and practicable measures necessary to prevent release of windblown dust associated with transporting coal extracted from site.</p>
B13	<p>Greenhouse gas abatement plan</p> <p>A greenhouse gas (GHG) abatement plan must be developed and implemented prior to the commencement of authorised activities. The GHG abatement plan must include:</p> <ul style="list-style-type: none"> a) an inventory of projected unmitigated annual Scope 1 and Scope 2 emissions for each GHG over the life of the project; and b) the intended objectives, measures and performance standards to avoid and mitigate GHG emissions consistent with the latest version of the Queensland Climate Action Plan and relevant targets; and c) a process for regularly reviewing, assessing, and implementing new technologies to identify opportunities to further reduce GHG emissions and energy use and progressively improve energy efficiency; and d) a program for annual monitoring, auditing and reporting on GHG emissions from all relevant activities and the success of measures to avoid and mitigate GHG emissions and achieve reduction targets; and e) a biennial review and update of the effectiveness of the plan.
B14	<p>A schedule of targets for GHG reduction required under condition B13(d) must be provided to the administering authority prior to the commencement of authorised activities and be made available for each year of authorised activities on request.</p>
B15	<p>The results of the program conducted under condition B13(d) must be made publicly available on the environmental authority holder's website, and any other website requested by the administering authority.</p>

Schedule C: Waste	
Condition number	Condition
C1	The environmental authority holder must plan and conduct activities on site to prevent any potential or actual release of a hazardous contaminant.
C2	Waste must not be released directly or indirectly to waters.
C3	Only coal mined from ML700073 can be washed on ML700073.
C4	Unless otherwise authorised by the conditions of this environmental authority, all waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.
C5	Unless otherwise authorised by the conditions of this environmental authority, non-mineral waste, except scrap tyres and green waste, must not be disposed of within ML700073.
C6	Unless otherwise permitted by the conditions of this environmental authority, waste must not be burnt.
C7	<p>Non-mineral waste management program</p> <p>The holder of this environmental authority must develop, document and implement a non-mineral waste management program for all authorised activities.</p>

C8	<p>The program required under condition C7 must include:</p> <ul style="list-style-type: none"> a) a description of each waste stream generated by the authorised activity; and b) a description of the authorised activity that may generate waste; and c) waste management control strategies including: <ul style="list-style-type: none"> i. recording of the types and amounts of wastes generated by the authorised activity; ii. segregation of the wastes; iii. storage of the wastes; iv. transport of the wastes; v. disposal of waste including leachate management; and vi. monitoring and reporting matters concerning the waste; and d) the hazard characteristics of the wastes generated including disposal procedures for regulated wastes; and e) a program for reusing, recycling or disposing of all wastes; and f) how the waste will be dealt with in accordance with the waste and resource management hierarchy, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices in the waste management hierarchy (i.e. avoidance, reuse, recycling, energy recovery, disposal); and g) how the waste will be stored, handled and transferred in a proper and effective manner; and h) procedures for identifying and implementing opportunities to minimise the amount of waste generated, promote efficiency in the use of resources and improve the waste management practices employed; and i) procedures for dealing with accidents, spills, and other incidents that may impact on waste management; and j) details of any accredited management system employed, or planned to be employed, to deal with the waste; and k) how often the performance of the waste management practices will be assessed; and l) indicators or other criteria on which the performance of the waste management practices will be assessed; and m) staff training and induction to the waste management program; and n) a system for regular review.
C9	<p>The program required under condition C7 must be regularly reviewed and updated at intervals of no greater than five (5) years.</p>
C10	<p>Storage and disposal of tyres</p> <p>Tyres must be stored and disposed of in accordance with the latest version of the Operational policy - <i>Disposal and storage of scrap tyres at mine sites</i> ESR/2016/2380.</p>
C11	<p>Mineral Waste Management Plan</p> <p>A Mineral Waste Management Plan must:</p> <ul style="list-style-type: none"> a) be developed and implemented prior to the commencement of authorised activities; and b) be reviewed and updated at regular intervals, not exceeding two (2) years.

C12	<p>The Mineral Waste Management Plan required by condition C11 must include at least:</p> <ul style="list-style-type: none"> a) a program for the effective characterisation of mineral waste to predict, under the proposed placement and disposal strategy, the quality of runoff and seepage generated concerning salinity, acidity, alkalinity and dissolved metals, metalloids, and non-metallic inorganic substances; b) a program of progressive sampling and characterisation to identify dispersive and non-dispersive spoil, the salinity and metal/metalloid concentrations of waste rock and the salinity, sulphate, acid and alkali producing potential; c) a materials balance and disposal plan demonstrating how potentially acid forming and acid-forming waste rock and coal rejects will be selectively placed and/or encapsulated to minimise the potential generation of acid mine drainage; d) a disposal plan demonstrating how highly sodic and dispersive waste rock is identified and selectively placed and/or encapsulated to ensure that it will not report to final landform surfaces and will not be used for construction activities; e) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid-forming and acid-forming waste; f) details regarding the management of seepage and leachates; and g) monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of waste rock, including the prevention and management of acid mine drainage, saline drainage, erosion minimisation and establishment of vegetation cover.
C13	<p>Tailings and Coarse Rejects Disposal Plan</p> <p>A Tailings and Coarse Rejects Disposal Plan must be developed prior to the commissioning of the coal handling and processing plant (CHPP) on ML700073 and must be revised and implemented for all stages of activities.</p>

C14	<p>The Tailings and Coarse Rejects Disposal Plan required under condition C13 must at a minimum include:</p> <ul style="list-style-type: none"> a) effective characterisation of the CHPP tailings and coarse rejects to predict, under the proposed placement and disposal strategy, the quality of runoff and seepage generated concerning potentially environmentally significant effects including salinity, acidity, alkalinity and dissolved metals, metalloids and non-metallic inorganic substances; b) a program of progressive sampling and analysis to characterise the CHPP tailings and rejects and identify dispersive and non-dispersive materials and the salinity, acid and alkali producing potential, metal and acid concentrations of tailings and rejects; c) a material balance and disposal plan demonstrating how potentially acid forming tailings and coarse rejects will be selectively placed and/or encapsulated to minimise potential generation of acid mine drainage, where relevant; d) re-testing of tailings and coarse rejects geochemistry and water quality limits of parameters; e) where relevant, a sampling program to verify encapsulation and/or placement of potentially acid forming waste rock; f) data for run-off water quality; g) how often the suitability of the plan will be assessed and triggers for plan revisions; and h) the indicators or other criteria on which the suitability of the plan will be assessed.
C15	<p>CHPP water reuse</p> <p>Water used at the CHPP must be separated from the tailings and coarse rejects to produce as much as practicable:</p> <ul style="list-style-type: none"> a) dry tailings and coarse rejects; and b) water for reuse in the CHPP.
C16	<p>The following must be disposed of in accordance with the plans required by conditions C11 and C14 and must only be disposed to in-pit waste rock dumps:</p> <ul style="list-style-type: none"> a) waste rock identified as being Potentially Acid Forming (PAF) material; b) dry tailings; and c) rejects.

Schedule D: Noise	
Condition number	Condition
D1	<p>Noise nuisance</p> <p>Noise from the authorised activities must not cause an environmental nuisance at any sensitive place.</p>
D2	<p>Noise limits</p> <p>Noise from the activity must not exceed the levels identified in Table D1 – Noise limits – Sensitive place.</p>

Table D1 – Noise limits – Sensitive place

Noise level measured in dB(A)	Monday to Saturday			Sunday and Public Holidays		
	7am–6pm	6pm–10pm	10pm–7am	9am–6pm	6pm–10pm	10pm–9am
	Noise measured a sensitive place					
L_{Aeq} adj, 1 hr	40 dB(A)	40 dB(A)	35 dB(A)	35	35	35
L_{Amax}, 1 hr	N/A	N/A	45dB(A)	N/A	N/A	45 dB(A)

D3	<p>Noise monitoring</p> <p>Continuous monitoring of noise emissions from the activity must be undertaken at sensitive places when the activity is in operation.</p>
D4	<p>The following must be recorded when undertaking monitoring of noise emissions from the activity:</p> <ol style="list-style-type: none"> All equipment in operation at the time of the noise measurement; and The mode of operation at the time of the noise measurement.
D5	<p>Noise measurements must be taken using a class 1 sound level meter as classified under Australian Standard (IEC 61672).</p>
D6	<p>Notwithstanding condition D5, all monitoring of noise emissions from the activity must be undertaken in accordance with the most recent version of Queensland Government's 'Noise Measurement Manual' (ESR/2016/2195), the relevant Australian Standard and the Environmental Protection Regulation 2019 (Chapter 5, Part 4) and must include the following descriptors, characteristics and conditions:</p> <ol style="list-style-type: none"> L_{A10}, adj, 10 mins; and L_{A 1}, adj, 10 mins; and the level and frequency of occurrence of impulsive or tonal noise; and atmospheric conditions including wind speed and direction; and effects due to extraneous factors such as traffic noise; and location, date and time of recording.

D7	<p>Noise monitoring exceedance</p> <p>If noise monitoring indicates an exceedance of any relevant limit in Table D1 – Noise limits – Sensitive place, noise abatement measures must be immediately implemented to minimise any adverse impacts to the sensitive place and to limit any further exceedances.</p>
D8	<p>A report must be provided to the administering authority within ten (10) business days of an exceedance a noise limits of Table D1 – Noise limits – Sensitive place. The report must detail:</p> <ul style="list-style-type: none"> a) the noise emission data at the sensitive place; b) a description of meteorological conditions recorded in accordance with Table B1 – Ambient air quality limits occurring at the time; c) the air quality data upwind of the authorised activities (if known); d) measures taken to reduce noise generated by the authorised activities including those undertaken under condition D7; and e) the contribution of the authorised activities to the noise level experienced at the sensitive place.
D9	<p>When requested by the administering authority, noise and/or vibration monitoring must be undertaken at sensitive receptors and within a timeframe nominated by the administering authority.</p>
D10	<p>Blasting</p> <p>Blasting must not cause the limits prescribed in Table D2 – Blasting noise and vibration limits to be exceeded at a sensitive place.</p>
D11	<p>Blast monitoring program</p> <p>The environmental authority holder must develop and implement a blast monitoring program to monitor compliance with Table D2 – Blasting noise and vibration limits for all blasts conducted at the nearest and most affected sensitive place(s)</p>
D12	<p>Blast monitoring must include the following descriptors, characteristics, and conditions:</p> <ul style="list-style-type: none"> a) location of the blast(s) within the mining area (including which bench level); b) atmospheric conditions including temperature, relative humidity, wind speed and wind direction; and c) location, date and time of recording.
D13	<p>If monitoring indicates exceedance of the limits in Table D2 – Blasting noise and vibration limits, then the environmental authority holder must immediately implement airblast overpressure abatement measures so that airblast overpressure from the activity does not result in further environmental nuisance.</p>

Table D2 – Blasting noise and vibration limits

Blasting noise and vibration limits	Sensitive place criteria	
	7am to 6pm	6pm to 7am
Airblast overpressure	115dB (Linear) Peak for 9 out of 10 consecutive blasts initiated and not greater than 120 dB (Linear) Peak at any time	No blasting is allowed during these times
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 is allowed during these times

Schedule E: Groundwater	
Condition number	Condition
E1	Contaminants must not be released directly or indirectly to groundwater.
E2	<p>Groundwater Monitoring Bores</p> <p>The construction, maintenance, operation and decommissioning of each groundwater monitoring bore must be undertaken by an appropriately qualified person in a manner that:</p> <ul style="list-style-type: none"> a) prevents contaminants entering the groundwater; and b) ensures representative groundwater samples from the target hydrogeological unit; and c) maintains the hydrogeological environment within the hydrogeological unit.
E3	<p>A bore report must be kept for each monitoring bore which includes:</p> <ul style="list-style-type: none"> a) a unique identification reference number and geographic coordinate location; and b) construction information including but not limited to the depth of bore, depth and length of casing, depth and length of screening and bore sealing details; and c) stratigraphy and target hydrogeological unit of the bore; and d) depth at which groundwater was intercepted; and e) the final standing water level (SWL) after bore development.
E4	<p>Any groundwater monitoring bore that is scheduled to be decommissioned due to planned authorised activities must:</p> <ul style="list-style-type: none"> a) be replaced at least twelve (12) months prior to decommissioning; and b) be replaced by a groundwater monitoring bores that targets the same hydrogeological unit in a suitable location.

E5	Any groundwater monitoring bore that is decommissioned due to unplanned events (e.g. damage to bore) must: <ul style="list-style-type: none"> a) be replaced within six (6) months of decommissioning; and b) be replaced by a groundwater monitoring bore that targets the same hydrogeological unit and in the same location and provides for the requirements of condition E24(g).
E6	Groundwater monitoring bores MB1R, MB12R, MB14, MB15, MB16, MB17 and MB18 as identified in Table E1 – Groundwater monitoring locations and frequency must be installed prior to the commencement of authorised activities.
E7	<p>Groundwater monitoring</p> <p>Groundwater quality and SWL must be monitored:</p> <ul style="list-style-type: none"> a) at the locations specified in Table E1 – Groundwater monitoring locations and frequency, as illustrated in Figure E1 – Location of groundwater monitoring bores; and b) at the frequencies specified in Table E1 – Groundwater monitoring locations and frequency; and c) for quality characteristics listed in Table E2 – Groundwater quality limits.
E8	Monitoring and sampling of groundwater must comply with the latest version of the Queensland Government's 'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009'.
E9	By 31 December 2024 , the environmental authority holder must submit a report to the administering authority to replace all TBD values in Table E1 – Groundwater monitoring locations and frequency .
E10	By 31 December 2026 , the environmental authority holder must submit a report to the administering authority to replace all TBD values, in Table E2 – Groundwater quality limits based on at least eighteen (18) samples collected over at least an eighteen (18) month period and with considerations of the methods and matters stated in the latest version of the guideline " <i>Using monitoring data to assess groundwater quality and potential environmental impacts</i> ", February 2021.
E11	The report required in condition E10 must include a review of all groundwater quality limits indicated in Table E2 – Groundwater quality limits to assure achievement of the requirements of condition E24(g) .

Table E1 – Groundwater monitoring locations and frequency

Monitoring Bore	Hydrogeological Unit	Location (decimal degrees, GDA2020)		Surface RL (mAHD)	Screened Interval RL (depth)(mbgl)	Monitoring Frequency	
		Latitude	Longitude			Water level	Water quality
MB01R*	DLL coal seam	22.333428732° S	148.220070636° E	222.91	21.9 - 24.9	monthly	monthly
MB06	Weathered Permian	22.360790237° S	148.247150363° E	214.61	21.6 - 24.6	quarterly	quarterly
MB07	Weathered Permian	22.364540522° S	148.250437058° E	215.99	40.0 - 43.0	quarterly	quarterly
MB08	Weathered Permian	22.357739524° S	148.244501266° E	212.24	21.0 – 24.0	quarterly	quarterly
MB09	DLL coal seam	22.373728533° S	148.258356674° E	208.98	31.4 – 34.4	quarterly	quarterly
MB10	DLL coal seam	22.360862044° S	148.247209269° E	214.60	37.3 – 40.3	quarterly	quarterly
MB11	DLL coal seam	22.350287991° S	148.237375642° E	225.66	26.9 – 29.9	quarterly	quarterly
MB12	Back Creek Group	22.364028727° S	148.215646464° E	241.43	32.2 – 38.2	quarterly	quarterly
MB12R*	Back Creek Group	22.364028727° S	148.215646464° E	241.43	32.2 – 38.2	monthly	monthly
MB14*	TBD	22.384866461° S	148.266362984° E	TBD	TBD	monthly	monthly
MB15*	TBD	22.282575366° S	148.151921075° E	TBD	TBD	monthly	monthly
MB16*	TBD	22.288394573° S	148.174332028° E	TBD	TBD	monthly	monthly
MB17*	TBD	22.340395410° S	148.213732530° E	TBD	TBD	monthly	monthly
MB18*	TBD	22.402178167° S	148.262216512° E	TBD	TBD	monthly	monthly

*Bore to be installed as required by condition E6.

E12	<p>Groundwater Quality</p> <p>Results of monitoring of groundwater from the monitoring bores identified in Table E1 – Groundwater monitoring locations and frequency must not exceed any of the groundwater quality limits specified in Table E2 – Groundwater quality limits on three (3) consecutive sampling occasions.</p>
E13	<p>If monitoring bores identified in Table E1 – Groundwater monitoring locations and frequency exceed the groundwater quality limits specified in Table E2 – Groundwater quality limits on three (3) consecutive sampling occasions, the environmental authority holder must notify the administering authority within twenty-four (24) hours of receiving the results.</p>
E14	<p>Groundwater Quality Trigger investigation</p> <p>If monitoring results from groundwater monitoring bores listed in Table E1 – Groundwater monitoring locations and frequency, exceed any of the groundwater quality triggers specified in Table E2 – Groundwater quality triggers on three (3) consecutive sampling occasions the environmental authority holder must complete an investigation within fourteen (14) days of receiving the results to determine if the exceedance is a result of:</p> <ol style="list-style-type: none"> activities authorised under this environmental authority; or natural variation; or neighbouring land use resulting in groundwater impacts.

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E15	The holder of this environmental authority must provide a report of the investigation to the administering authority within fourteen (14) days of completion of the investigation under condition E14 .
E16	If the investigation under condition E14 determines that the exceedance was the result of activities authorised under this environmental authority, then a further investigation must be completed within twenty-eight (28) days of provision of the report under condition E15 .
E17	The investigation required under condition E16 must determine the source, cause and extent of contamination and implement appropriate mitigation and management measures to address any groundwater contamination and prevent recurrence of groundwater contamination.
E18	A report must be provided to the administering authority within twenty-eight (28) business days of completion of the investigation under condition E17 detailing the investigations outcomes and the measures undertaken under the investigation.

Table E2 – Groundwater quality limits

Parameter	Unit	Bores	Limit	Comment
pH (field)	pH unit	All bores	5.5 - 8.0	ANZG (2018)
Electrical Conductivity (field)	µS/cm	MB01R^	16,000	EPP WQO
		MB07	5,791	Site-specific 95th percentile
		MB09	12,007	Site-specific 95th percentile
		MB10	4,102	Site-specific 95th percentile
		MB12	22,872	Site-specific 95th percentile
		MB12R^	16,000*	EPP WQO
		MB14	16,000*	EPP WQO
		MB15	16,000*	EPP WQO
		MB16	16,000*	EPP WQO
		MB17	16,000*	EPP WQO
Sulphate	mg/L	MB01R^	398	EPP WQO
		MB07	707	Site-specific 95th percentile
		MB09	769	Site-specific 95th percentile
		MB10	418	Site-specific 95th percentile
		MB12	874	Site-specific 95th percentile
		MB12R^	398*	EPP WQO
		MB14	398*	EPP WQO
		MB15	398*	EPP WQO
		MB16	398*	EPP WQO
		MB17	398*	EPP WQO
MB18	398*	EPP WQO		
Dissolved Metals and metalloids				
Aluminium	mg/L	All bores	0.055	ANZG (2018)
Arsenic	mg/L	All bores	0.013	ANZG (2018)
Barium	mg/L	All bores	0.10	Site-specific 95th percentile (grouped)
Boron	mg/L	All bores	0.66	Site-specific 95th percentile (grouped)
Cobalt	mg/L	All bores	0.004	Site-specific 95th percentile (grouped)
Copper	mg/L	All bores	0.0014	ANZG (2018)
Iron	mg/L	MB01R^	0.246*	EPP WQO
	mg/L	MB07	0.46	Site-specific 95th percentile
	mg/L	MB09	0.38	Site-specific 95th percentile
	mg/L	MB10	0.2	Site-specific 95th percentile
	mg/L	MB12	4.94 [#]	Site-specific 95th percentile
	mg/L	MB12R^	0.246*	EPP WQO
	mg/L	MB14	0.246*	EPP WQO

	mg/L	MB15	0.246*	EPP WQO
	mg/L	MB16	0.246*	EPP WQO
	mg/L	MB17	0.246*	EPP WQO
	mg/L	MB18	0.246*	EPP WQO
Lead	mg/L	All bores	0.0034	ANZG (2018)
Mercury	mg/L	All bores	0.0006	ANZG (2018)
Molybdenum	mg/L	All bores	0.034	ANZG (2018)
Selenium	mg/L	All bores	0.005	ANZG (2018)
Strontium	mg/L	MB01R^	TBD	Site-specific 95th percentile
		MB07	2.2	Site-specific 95th percentile
		MB09	5.7	Site-specific 95th percentile
		MB10	1.2	Site-specific 95th percentile
		MB12	8.4	Site-specific 95th percentile
		MB12R^	TBD*	Site-specific 95th percentile
		MB14	TBD*	Site-specific 95th percentile
		MB15	TBD*	Site-specific 95th percentile
		MB16	TBD*	Site-specific 95th percentile
		MB17	TBD*	Site-specific 95th percentile
		MB18	TBD*	Site-specific 95th percentile
Uranium	mg/L	MB01R^	0.0005*	ANZG 2018
		MB07	0.003	Site-specific 95th percentile
		MB09	0.005	Site-specific 95th percentile
		MB10	0.0005*	ANZG 2018
		MB12	0.0005*	ANZG 2018
		MB12R^	0.0005*	ANZG 2018
		MB14	0.0005*	ANZG 2018
		MB15	0.0005*	ANZG 2018
		MB16	0.0005*	ANZG 2018
		MB17	0.0005*	ANZG 2018
		MB18	0.0005*	ANZG 2018
TRH (C6-C10)	µg/L	All bores	<20	LOR
TRH (C10-40)	µg/L	All bores	<50	LOR
Major Ions				
Major ions (mg/L) (calcium, chloride, potassium, magnesium, sodium, bicarbonate, carbonate)	mg/L	All bores	For interpretation purposes only	
Hardness	mg/L	All bores	For interpretation purposes only	

Notes:

All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total (unfiltered). Limits are based on 'dissolved' measurements.

* Site-specific limits are to be provided in accordance with condition **E11**.

^ indicates replacement bores to be installed to replace dry bores and bores that require relocation due to mining activities.

Requires additional investigation to ensure it is indicative of background conditions.

EPP WQO: Groundwater quality parameters derived from EPP (water) policy 2009 *Isaac River Sub-basin Environmental Values and Water Quality Objectives Basin No. 130 (part)*, including all waters of the Isaac River Sub-basin (including Connors River), Zone 34-deep (80th percentile).

E19	<p>Groundwater Standing Water Level (SWL)</p> <p>By 30 June 2025, or another timeframe agreed to by the administering authority, the holder must submit a report to the administering authority to replace all values for Table E3 – Groundwater SWL trigger threshold. The report must include:</p> <ul style="list-style-type: none"> a) an assessment determining if the groundwater monitoring network is fit for purpose including frequency of monitoring; and b) monitoring results of the baseline site-specific groundwater SWLs, containing a minimum of twelve (12) samples; and c) identify and interpret any trends in the groundwater network monitoring data.
E20	<p>Groundwater SWL when measured at the groundwater monitoring bores specified in Table E1 – Groundwater monitoring locations and frequency and must not exceed the SWL trigger thresholds specified in Table E3 – Groundwater SWL trigger threshold.</p>
E21	<p>If the Level Trigger Thresholds of groundwater measured at monitoring bores specified in Table E1 – Groundwater monitoring locations and frequency exceeds any of the corresponding SWL trigger thresholds specified in Table E3 – Groundwater SWL trigger threshold, the holder of the environmental authority must:</p> <ul style="list-style-type: none"> a) notify the administering authority via WaTERS within twenty-four (24) hours of becoming aware of the exceedance; and b) complete an investigation into the cause of the exceedance within ten (10) business days of becoming aware of the exceedance; and c) if the investigation carried out under E21(b) determines that the authorised activities are a potential cause or contributor to the exceedance, <ul style="list-style-type: none"> i. notify the administering authority within twenty-four (24) hours of making the determination; and ii. take immediate action to ensure compliance with condition E20 of this environmental authority and notify the administering authority of when action has been completed.

Table E3 - Groundwater SWL trigger thresholds

Monitoring location	Hydrogeological unit	Baseline water level	SWL trigger threshold (mAHD)
MB01R	DLL coal seam	TBD	TBD
MB07	Weathered Permian	180.1	168.14
MB09	DLL coal seam	181.38	175.63
MB10	DLL coal seam	182.66	175.67
MB12	Back Creek Group	215.83	213.14
MB12R	Back Creek Group	TBD	TBD
MB14	TBD	TBD	TBD
MB15	TBD	TBD	TBD
MB16	TBD	TBD	TBD
MB17	TBD	TBD	TBD
MB18	TBD	TBD	TBD

E22	All groundwater monitoring data must be submitted to the administering authority via WaTERS.
E23	<p>Groundwater Monitoring and Management Program</p> <p>Prior to the commencement of authorised activities, a Groundwater Monitoring and Management Program (GMMP) must be developed and implemented and maintained for all stages of the authorised activity.</p>

E24	<p>The GMMP required by Condition E23 must:</p> <ul style="list-style-type: none"> a) provide a hydrogeological conceptual groundwater model; and b) identify the groundwater monitoring bore locations and purpose for each bore; and c) identify all potential sources of contamination to groundwater from the activities authorised under this environmental authority; and d) identify all environmental values that may be impacted; and e) detail groundwater levels in all identified hydrogeological units present across and adjacent to the site to confirm existing groundwater flow paths; and f) ensure all potential groundwater impacts due to the activities authorised under this environmental authority are identified, monitored and mitigated; and g) ensure adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: <ul style="list-style-type: none"> i. detect any impacts to groundwater quality due to the authorised activities conducted under this environmental authority; and ii. detect any changes to groundwater level due to the authorised activities under this environmental authority; and iii. determine compliance with conditions E12 and E20; and iv. determine trends in groundwater quality; and v. determine any interaction or impact from groundwater on surface water; and h) document groundwater management and monitoring methodologies undertaken for the duration of all the activities authorised under this environmental authority; and i) document a process of how a contaminant trigger investigation will be conducted, where triggers are used in Table E2 – Groundwater quality limits; and j) identifying monitoring bores that will be replaced due to authorised activities; and k) include an adaptive management strategy to assist with the management and mitigation of drawdown and potential water quality impacts; and l) provide an appropriate quality assurance and quality control program; and m) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.
E25	<p>The GMMP must be reviewed every three (3) years by an appropriately qualified person to determine if it continues to meet the requirements stated in condition E24.</p>
E26	<p>Annual Groundwater Monitoring Report</p> <p>Within one (1) year after the commencement of authorised activities, an Annual Groundwater Monitoring Report (AGMR) must be completed each year.</p>

E27	<p>The AGMR required by condition E26 must include:</p> <ul style="list-style-type: none"> a) a review of all the groundwater quality and SWL data of all groundwater bores listed within Table E1 – Groundwater monitoring locations and frequency; and b) an assessment of groundwater quality and SWL trends for all data from all groundwater bores listed in Table E1 – Groundwater monitoring locations and frequency; and c) details of any review undertaken of the conceptual groundwater model; and d) an assessment of any impacts on groundwater quality and level due to the authorised activities; and e) comparison with receiving environment surface water quality monitoring results to determine any interaction or impact from groundwater on surface water.
E28	<p>Groundwater Dependent Ecosystems</p> <p>The activities authorised under this environmental authority must not cause environmental harm to any groundwater dependent ecosystems located within ML700073.</p>

Schedule F: Surface Water	
Condition number	Condition
F1	<p>Release to receiving waters</p> <p>Contaminants must not be released to any waters unless otherwise permitted by a condition of this environmental authority.</p>
F2	<p>Mine affected water must not be released directly or indirectly to the receiving environment.</p>
F3	<p>Surface water runoff is permitted to be released to waters for the purpose of ensuring stormwater does not become mine affected water from:</p> <ul style="list-style-type: none"> a) erosion and sediment control (ESC) structures identified in Table F1 – ESC structure monitoring locations that are installed and operated in accordance with the Erosion and Sediment Control Plan required by condition F29 if monitoring required by condition F4 confirms water quality is compliant with the sediment dam trigger values specified in Table F3 – Surface water quality objectives; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with condition F24.
F4	<p>The water from ESC structures must be monitored at the release locations detailed in Table F1 – ESC structure monitoring locations for each quality characteristic, and at the frequencies, specified in Table F3 – Surface water quality objectives.</p>

Table F1 – ESC structure monitoring locations

ESC Structure	Location Latitude (GDA2020)	Location Longitude (GDA2020)	ESC structure water source location	Downstream monitoring point	Receiving waters description
SD9	-22.3432	148.2276	Vulcan North Out of Pit Dump	DL7_DS	Drainage Line 7
SD10	-22.3469	148.224	Vulcan North Out of Pit Dump	DL7_DS	Drainage Line 7
SD11	-22.3379	148.2193	Vulcan North In Pit Dump	DL6_DS	Drainage Line 6
SD12	-22.3418	148.2297	Vulcan North In Pit Dump	DL7_DS	Drainage Line 7
SD13	-22.3353	148.2226	Vulcan North In Pit Dump	DL6_DS	Drainage Line 6
SD14	-22.3341	148.2203	Vulcan North In Pit Dump	DL6_DS	Drainage Line 6
SD15	-22.3315	148.2157	Vulcan North Out of Pit Dump	DL5_DS	Drainage Line 5
SD16	-22.3643	148.2365	Vulcan Main Out of Pit Dump	HC_DS	Hughes Creek
SD17	-22.3578	148.2441	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD18	-22.3612	148.2469	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD19	-22.3737	148.2488	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD20	-22.3682	148.2532	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD21	-22.3738	148.2582	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD22	-22.3782	148.2617	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD23	-22.3784	148.257	Vulcan Main In Pit Dump	HC_DS	Hughes Creek
SD24	-22.3852	148.2658	Vulcan South In Pit Dump	HC_DS	Hughes Creek
SD25	-22.3875	148.2673	Vulcan South In Pit Dump	HC_DS	Hughes Creek
SD26	-22.3888	148.2676	Vulcan South In Pit Dump	HC_DS	Hughes Creek
SD27	-22.3914	148.2636	Vulcan South Out of Pit Dump	HC_DS	Hughes Creek
SD28	-22.4011	148.2697	Vulcan South Out of Pit Dump	DL8_DS	Barrett Creek
SD29	-22.3944	148.271	Vulcan South In Pit Dump	HC_DS	Hughes Creek
SD30	-22.3818	148.2641	Vulcan South In Pit Dump	HC_DS	Hughes Creek
HWD1	-22.2866	148.1497	Highwall Trial Area Bench	DL2_DS	Drainage Line 2

F5	If monitoring required by condition F4 , for any ESC structure, identifies an exceedance of any of the sediment dam trigger values identified in Table F3 – Surface water quality objectives , all water in that structure must be transferred to a storage listed in Table F4 – Mine affected water storages .
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F6	If water quality sampling as specified in condition F4 identifies three (3) consecutive exceedances of sediment dam trigger values detailed in Table F3 – Surface water quality objectives , the environmental authority holder must complete an investigation into the cause of the deterioration in water quality and the potential for environmental harm.
F7	Following completion of the investigation required under condition F6 , the environmental authority holder must submit a written report to the administering authority within twenty (20) business days outlining: <ul style="list-style-type: none"> a) details of the investigation carried out including any assumptions and limitations of the investigation; and b) findings of the investigation including an explanation of the cause identified; and c) recommendations of the investigation; and d) actions taken to comply with the conditions of the environmental authority and to prevent environmental harm.
F8	The holder of the environmental authority must notify the administering authority within twenty-four (24) hours of receiving the monitoring results of the three (3) consecutive exceedances via WaTERS and pollution hotline.
F9	Releases from ESC structures must not cause erosion of the bed and banks of the receiving environment or cause a material build-up of sediment in such waters.
F10	The holder of the environmental authority must design, install and maintain adequate banks and/or diversion drains to minimise the potential for stormwater runoff to enter disturbed areas.
F11	Water monitoring and sampling must address and comply with the latest version of the Queensland Government's <i>'Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009'</i> .
F12	<p>Surface water monitoring</p> <p>Surface waters must be monitored:</p> <ul style="list-style-type: none"> a) for the quality characteristics in Table F3 – Surface water quality objectives; and b) at the monitoring frequency specified in Table F3 – Surface water quality objectives; and c) at the monitoring points identified in Table F2 – Surface waters monitoring locations and Figure F1 – Surface waters monitoring locations.

Table F2 – Surface waters monitoring locations

Station ID	Previous Station ID	Catchment Area	Latitude (GDA2020)	Longitude (GDA2020)	Description
Upstream sites					
DL2_US	N/A	Boomerang Creek	22.290841264° S	148.154357187° E	Drainage line 2 upstream of the highwall mining area
DL3_US	N/A	Boomerang Creek	22.305612596° S	148.192716185° E	Drainage line 3 upstream of the haul road
DL4_US	N/A	Boomerang Creek	22.323035473° S	148.200252458° E	Drainage line 4 at the upstream mining lease boundary
DL6_US	N/A	East Creek	22.339508200° S	148.207957289° E	Drainage line 6 at the upstream mining lease boundary
DL7_US	N/A	East Creek	22.347211456° S	148.209392813° E	Drainage line 7 at the upstream mining lease boundary
HCN_US	N/A	Hughes Creek	22.370485469° S	148.226638033° E	Hughes Creek north tributary approximately 5.5 km upstream of Saraji Road
HC_US	VSW5	Hughes Creek	22.395927439° S	148.224656137° E	Hughes Creek approximately 2.8 km upstream of Saraji Road
DL8_US	N/A	Hughes Creek	22.395784122° S	148.251629364° E	Drainage line 8 approximately 2.2 km upstream of Saraji Road
BC1_US	VSW6	Hughes Creek	22.411388907° S	148.269449617° E	Barrett Creek upstream of Saraji
Downstream sites					
DD1_US	VSW1	Boomerang Creek	22.276596290° S	148.174514955° E	Diversion bund approximately
DD1_DS	VSW2	Boomerang Creek	22.301050508° S	148.195240117° E	Drainage line 2, downstream of the confluence of existing diversion drain
DL2_DS	VSW11	Boomerang Creek	22.298264498° S	148.189625245° E	Drainage line 2 upstream of confluence of existing diversion drain

DL3_DS	VSW3	Hughes Creek	22.306311857° S	148.194663612° E	Minor drainage line, upstream of confluence of Drainage Line 2
DL4_DS	VESW4	Hughes Creek	22.321553686° S	148.200307744° E	Drainage line 4 upstream of the confluence of Boomerang Creek
DL6_DS	VSW9	East Creek	22.334779125° S	148.221868903° E	Drainage line 6, at the downstream mining lease boundary
DL7_DS	VSW7	East Creek	22.343101091° S	148.231039608° E	Drainage line 7, at the downstream mining lease boundary
HC_DS	VSW4	Hughes Creek	22.384885209° S	148.266275740° E	Hughes Creek at the downstream mining lease boundary
DL8_DS	VSW10	Hughes Creek	22.388240114° S	148.268093290° E	Drainage line 8 at the downstream mining lease boundary

Table F3 – Surface water quality objectives

Quality characteristic (units)	Sediment dam trigger value	Downstream monitoring point trigger value	Source	Frequency
pH	6.5-8.5	6.5-8.5	EPP WQO (aquatic ecosystems)	Monthly and Daily during release (the first sample must be taken within 2 hours of commencement of release)
Electrical Conductivity (µS/cm)	864*	Baseflow: 720 Medium flow: 500 High flow: 250	EPP WQO	
Turbidity (NTU)	60*	50	EPP WQO	
Total Suspended Solids (mg/L)	102^	85	EPP WQO	
Sulphate as SO ₄ (mg/L)	37#	25	EPP WQO	
Ammonia (µg/L)	900	900	ANZG 2018	
Nitrate (µg/L)	1100	1100	For aquatic ecosystem protection, based on ambient Qld WQ Guidelines (2006) for Total Nitrate	
Filtered metals and metalloids				
Aluminium (µg/L)	192*	160	Locally derived	Monthly and Commencement of release and thereafter weekly during release.
Arsenic (µg/L)	16*	13	ANZG 2018	
Lead (µg/L)	4.1*	3.4	ANZG 2018	
Mercury (µg/L)	0.72*	0.6	EPP WQO (aquatic ecosystems)	
Molybdenum (µg/L)	40.8*	34	EPP WQO (aquatic ecosystems)	
Selenium (µg/L)	6*	5	ANZG 2018	

Notes:

All metals and metalloids must be measured as 'dissolved' (from analysis of a field filtered sample) and total (unfiltered). Limits for metals and metalloids apply to dissolved results.

*20% increase on trigger value

95th percentile site specific

^locally derived trigger values (80th percentile values of natural surface water monitoring)

F13	<p>Unless otherwise advised by the administering authority, if a water quality characteristic measured at a downstream site specified in Table F2 – Surface waters monitoring locations exceeds any water quality objective specified in Table F3 – Surface water quality objectives the holder of this environmental authority must compare this result to the applicable upstream site and:</p> <ul style="list-style-type: none"> a) If the quality measured at a downstream site is equal to or less than the quality measured at the applicable upstream site, no further action is required; or b) If the quality measured at a downstream site is greater than the quality measured at the applicable upstream site, complete an investigation into the cause of the deterioration in water quality and the potential for environmental harm and submit a written report to the administering authority within twenty (20) business days outlining: <ul style="list-style-type: none"> i. details of the investigation carried out including any assumptions and limitations of the investigation; and ii. findings of the investigation including an explanation of the cause identified; and iii. recommendations of the investigation; and iv. actions taken to comply with the conditions of the environmental authority and to prevent environmental harm.
F14	<p>If an exceedance in accordance with condition F13(b) occurs, the holder of the environmental authority must notify the administering authority within twenty-four (24) hours of receiving the monitoring result via WaTERS and pollution hotline.</p>
F15	<p>All surface water monitoring data must be submitted to the administering authority via WaTERS.</p>
F16	<p>Receiving Environment Monitoring Program</p> <p>On or before 1 August 2024, a Receiving Environment Monitoring Program (REMP) Design Document must be:</p> <ul style="list-style-type: none"> a) prepared in accordance with condition F19; and b) submitted to the administering authority.
F17	<p>For the purposes of the REMP, the only receiving environment is the waters detailed in Table F2 – Surface waters monitoring locations. The REMP must encompass any sensitive receiving waters or environmental values within the area of the site that will potentially be directly affected by releases of sediment water.</p>
F18	<p>Any comments made by the administering authority on the REMP Design Document must be addressed to the reasonable satisfaction and within a timeframe specified by the administering authority.</p>

F19	<p>The REMP must at a minimum:</p> <ul style="list-style-type: none"> a) address and comply with the latest version of the administering authority’s guideline ‘Receiving environment monitoring program guideline’ (ESR/2016/2399); and b) identify, describe and monitor any adverse impacts to surface water environmental values, quality, and flows; and c) assess the long-term condition or state of surface waters and aquatic ecosystem health; and d) include monitoring from background reference sites (e.g., upstream sites) and downstream sites from the release (as a minimum, the locations specified in Table F2 – Surface water monitoring locations; e) identify and describe all environmental values of the receiving environment; and f) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table F3 – Surface water quality objectives against the surface water quality objectives in Table F3 – Surface water quality objectives. g) include an assessment of the potential impacts of the activity and propose appropriate mitigation measures; and h) assess the status of and any change to aquatic ecosystem health including aquatic flora and fauna within and immediately surrounding the project area; and i) assess the status of and any change to riparian vegetation health within and immediately surrounding the project area; and j) apply procedures and/or guidelines from ANZG 2018 and other relevant standards and guideline documents; and k) describe sampling and analysis methods and quality assurance and control; and l) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
F20	<p>A REMP Annual Report must be prepared annually by 1 August and submitted to the administering authority on request.</p>
F21	<p>The REMP Annual Report required by condition F20 must:</p> <ul style="list-style-type: none"> a) be prepared by an appropriately qualified person; and b) outline the findings of the REMP, including but not limited to: <ul style="list-style-type: none"> i. an assessment of long-term upstream water quality; and ii. an assessment of the long-term condition or state of surface waters, including sediment and aquatic ecosystem health; and iii. recommendations for further investigation or actions; and iv. recommendations for changes or improvements to the monitoring program; and v. potential changes to management of the authorised activity to minimise impacts; and vi. all monitoring results; and vii. a description of all conclusions formed.
F22	<p>Water Storage monitoring</p> <p>The quality of water in water storages in Table F4 – Mine affected water storages must be monitored:</p> <ul style="list-style-type: none"> a) at the location in Table F4 – Mine affected water storages; and b) at the monitoring frequency in Table F4 – Mine affected water storages; and c) for all quality characteristics specified in Table F3 – Surface water quality objectives; and d) include the volume of the water storage (in megalitres) at the time of monitoring.

F23	If results of any water storage monitoring from condition F22 exceed a trigger value for the water quality characteristics specified in Table F3 – Surface water quality objectives , then all necessary actions must be taken to prevent access to the waters by wildlife and livestock.
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Table F4 – Mine affected water storages

Station ID	Latitude (GDA2020)	Longitude (GDA2020)	Description	Frequency
MWD6	22.364255447° S	148.227496324° E	MWD6 spillway	Quarterly
MWD7	22.361502986° S	148.230735154° E	MWD7 spillway	Quarterly
MWD8	22.364977354° S	148.229969352° E	MWD8 spillway	Quarterly
MWD9	22.376445088° S	148.251660294° E	MWD9 spillway	Quarterly

F24	<p>Water management plan</p> <p>On or before the commencement of authorised activities, a Water Management Plan must be developed and implemented for all stages of the authorised activity.</p>
F25	<p>The Water Management Plan must:</p> <ul style="list-style-type: none"> a) provide for effective water management of actual and potential environmental impacts resulting from the authorised activity; and b) include: <ul style="list-style-type: none"> i. a study of the source of contaminants; and ii. a water balance model for the site; and iii. a water management system for the site; and iv. measures to prevent, manage and reduce mine drainage; and v. contingency procedures for incidents and emergencies; and vi. a program for monitoring and review of the effectiveness of the Water Management Plan.
F26	<p>The Water Management Plan must be reviewed by 1 August for each calendar year. The review must be documented and:</p> <ul style="list-style-type: none"> a) include a statement that the Water Management Plan has been reviewed by an appropriately qualified person; and b) assess the plan against the requirements under condition F25; and c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; and d) provide details and timelines of the actions to be taken; and e) identify any amendments to be made to the Water Management Plan.
F27	<p>A copy of the Water Management Plan must be kept up to date following each annual review and must be provided to the administering authority on request.</p>

F28	<p>Erosion and Sediment Control</p> <p>The holder of the environmental authority must design, install and maintain adequate erosion and sediment control structures wherever necessary to prevent or minimise erosion of disturbed areas and the release of sediment to any waters.</p>
F29	<p>On or before the commencement of authorised activities, an Erosion and Sediment Control Plan must be developed and implemented for all stages of the authorised activity.</p>
F30	<p>The Erosion and Sediment Control Plan must demonstrate how erosion and sediment control measures detailed in the plan adequately minimise the release of sediment to receiving waters and must include at least the following:</p> <ul style="list-style-type: none"> a) an assessment of the size and characteristics of all catchment areas; and b) an assessment of relevant properties of soils and waste materials; and c) identification of receiving waters environmental values, water quality objectives and management intent; and d) specification of minimum design criteria for erosion and sediment control structures to achieve the management intent of receiving waters; and e) locations and descriptions of all erosion and sediment control measures; and f) an audit schedule to ensure erosion and sediment control measures are maintained.
F31	<p>The Erosion and Sediment Control Plan must be reviewed by 1 August for each calendar year. The review must be documented and must:</p> <ul style="list-style-type: none"> a) include a statement that the Erosion and Sediment Control Plan has been reviewed by an appropriately qualified person; and b) assess the plan against the requirements of condition F30; and c) include recommended actions to ensure actual and potential environmental impacts are effectively managed; and d) provide details and timelines of the actions to be taken; and e) identify any amendments made to the Erosion and Sediment Control Plan.
F32	<p>A copy of the Erosion and Sediment Control Plan must be kept up to date following each annual review and must be provided to the administering authority on request.</p>
F33	<p>Fitzroy Regional REMP (FRREMP)</p> <p>Conditions F17, F18, F19, F20, and F21 do not apply if the environmental authority holder is a demonstrated participant of the FRREMP.</p>
F34	<p>The environmental authority holder must notify the administering authority in a written statement within twenty (20) business days of ceasing to be a participant of the FRREMP. The written statement must detail how the environmental authority holder is going to fulfil the requirements of conditions F17, F18, F19, F20, and F21.</p>

Schedule G: Land	
Condition number	Condition
G1	Land disturbed by authorised activities must be rehabilitated in accordance with the approved Progressive Rehabilitation and Closure Plan (PRCP) schedule for this environmental authority.
G2	<p>Contaminated land</p> <p>Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report, 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 G1.</p>
G3	<p>Chemicals and flammable or combustible liquids</p> <p>The holder of the environmental authority must not directly or indirectly release hazardous contaminants to the receiving environment.</p>
G4	All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current edition of AS1940 – Storage and Handling of Flammable and Combustible Liquids.
G5	All chemicals and flammable or combustible liquids stored on site that have the potential to cause environmental harm must be stored in or serviced by an effective containment system that is impervious to the materials stored and managed to prevent the release of liquids to waters or land. Where no relevant Australian standard exists, store such materials within an effective on-site containment system. The environmental authority holder must minimise the potential for contamination of land and water by diverting stormwater around contaminated areas and facilities used for the storage of chemicals and flammable or combustible liquids.
G6	The holder of the environmental authority must ensure that spills of hazardous contaminants are cleaned up as quickly as practicable.
G7	<p>Topsoil</p> <p>The environmental authority holder must ensure that:</p> <ol style="list-style-type: none"> topsoil is removed and stockpiled prior to carrying out any activity; and measures are implemented to ensure that the mixing and erosion of topsoil and overburden stockpiles is prevented; and a topsoil inventory is maintained and provide to the administering authority on request.
G8	<p>Topsoil stockpiles must:</p> <ol style="list-style-type: none"> be located away from drainage areas, roads, machinery, transport corridors, and stock grazing areas; and seeded or covered with a water-shedding lining to prevent unnecessary erosion of topsoil.

G9	<p>Weed Management</p> <p>A weed management plan must be developed prior to the commencement of authorised activities and implemented for ML700073 for the duration of authorised activities and must outline:</p> <ul style="list-style-type: none"> a) areas of control priority and the methods used to determine such areas; and b) strategies to promote dense pasture cover (to decrease weeds establishment) through reduced disturbance; and c) monitoring methodologies that document the spread of weeds and any new outbreaks; and d) methods for the control of weeds that include best practice management; and e) stringent wash-down and inspection procedures for both machinery involved in clearing/construction activities and those operating outside of designated roads during mine operation; and f) truck wash procedure to reduce weed infestations; and g) protocol for an annual weed inspection; and h) promotion of the awareness of weed management issues at the site.
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Schedule H: Biodiversity	
Condition number	Condition
H1	<p>Prescribed environmental matters - Matters of State environmental significance</p> <p>Impacts to Matters of State environmental significance (MSES) as a result of carrying out the activity must only occur within the maximum extents stated in Table H1 – Authorised residual impacts to MSES and within the disturbance footprint shown in Appendix 5 - Figures H1 to H7 (inclusive).</p>
H2	<p>Environmental Offsets</p> <p>An environmental offset must be made in accordance with the <i>Environmental Offsets Act 2014</i> and the Queensland Environmental Offsets Policy [EPP/2015/1658], for the maximum extent of impact to each prescribed environmental matter as requiring an offset as listed in Table H1 – Authorised residual impacts to MSES.</p> <p><i>Note: Deemed conditions provided in section 16 of the Environmental Offsets Act 2014 also apply to this authority. Any contravention of a deemed condition will be dealt with under the Environmental Protection Act 1994.</i></p>

Table H1 – Authorised residual impacts to MSES

Prescribed environmental matters	Delineation of habitat usage or quality (where relevant)	Maximum extent of impact (ha)	Location	Offset required?
Endangered Regional Ecosystem 11.4.8/11.4.9/HVR 11.4.8 (Brigalow TEC)*		67	Figure H1	No*
Regional ecosystem 11.3.2 Of concern		3.3	Figure H6	Yes
Vegetation Management Watercourse REs				
11.3.25		20.5	Figure H7	Yes
11.5.9				
11.5.9b				
11.10.1				
11.10.3				
11.10.7				
Threatened, Vulnerable and Special Least Concern Fauna Species listed under the Nature Conservation Act 1992				
Habitat for an animal that is endangered - Greater Glider (<i>Petauroides volans</i>)*	NA	39.4	Figure H4	No*
Habitat for an animal that is endangered - Koala (<i>Phascolarctos cinereus</i>)*	Total	770.4	Figure H2	No*
	High-quality habitat	3.9		
	Moderate-quality habitat	329.6		
	Low-quality habitat	436.9		
Habitat for an animal that is vulnerable - Squatter Pigeon (<i>Geophaps scripta scripta</i>)*	Total	1023.5	Figure H3	No*
	Breeding and Foraging habitat	338		
	Dispersal habitat	621.4		
	Foraging habitat	64.1		
Habitat for an animal that is vulnerable - Glossy Black Cockatoo (<i>Calyptorhynchus lathami</i>)	NA	36.3	Figure H5	Yes
Note: * This matter is proposed to be offset under the EPBC Act approval conditions.				

H3	<p>Koala management</p> <p>The environmental authority holder must identify and implement management measures in high-risk areas for koala movement. Management measures must include, but not limited to, the following;</p> <ul style="list-style-type: none"> a) the identification of high-risk management areas for koala movement on site, in particular vehicle corridors; and b) establish vehicle management protocols on site that reduce the likelihood of vehicles intercepting koalas; and c) the design and construction of koala exclusion fencing, which includes a fauna detection system, around higher risk areas such as heavy vehicle routes that cross riparian vegetation with high koala habitat and where these intersect with operational mining areas.
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Schedule I: 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 latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933) at the following times:</p> <ul style="list-style-type: none"> a) prior to the design and construction of the structure; or b) prior to any change in its purpose or the nature of its stored contents.
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 latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
I4	<p>Design and construction of a regulated structure</p> <p>All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).</p> <p>NOTE:</p> <p>Certification of design and construction may be undertaken by different persons.</p>

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I5	<p>Construction of a regulated structure is prohibited unless:</p> <ul style="list-style-type: none"> a) the environmental authority holder has submitted a consequence category assessment report and certification to the administering authority; and b) certification for the design, design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this environmental authority.
I6	<p>Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the latest version of the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933), and must be recorded in the Register of Regulated Structures.</p>
I7	<p>Regulated structures must:</p> <ul style="list-style-type: none"> a) be designed and constructed in compliance with the latest version of the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933); b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: <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. c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
I8	<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 structure; and b) construction of the regulated structure is in accordance with the design plan.
I9	<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 for each of the following:</p> <ul style="list-style-type: none"> a) prior to the operation of the new regulated structure; and b) if the emergency action plan is amended, within five (5) business days of it being amended.

I10	<p>Operation of a regulated structure</p> <p>Operation of a regulated structure is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following:</p> <ul style="list-style-type: none"> a) One electronic copy of the design plan and certification of the 'design plan' in accordance with condition I5; b) a set of 'as constructed' drawings and specifications; c) certification of the 'as constructed drawings and specifications' in accordance with condition I8; 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 environmental authority relating to the construction of the regulated structure have been met; f) the holder has entered the details required under this environmental authority, into a Register of Regulated Structures; and g) there is a current operational plan for the regulated structure.
I11	<p>Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.</p>
I12	<p>Mandatory reporting level</p> <p>Conditions I13 to I16 (inclusive) only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.</p>
I13	<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>
I14	<p>The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.</p>
I15	<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>
I16	<p>The holder must record any changes to the MRL in the Register of Regulated Structures.</p>
I17	<p>Design storage allowance</p> <p>The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.</p>

I18	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the DSA volume for the dam (or network of linked containment systems).
I19	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
I20	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.
I21	<p>Annual inspection report</p> <p>Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.</p>
I22	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.
I23	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the latest version of the <i>Manual for assessing consequence categories and hydraulic performance of structures</i> (ESR/2016/1933).
I24	<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; and b) If applicable, any actions being taken in response to those recommendations; and c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within ten (10) business days of receipt of the request.
I25	<p>Transfer arrangements</p> <p>The holder must provide a copy of any reports, documentation and certifications prepared under this environmental 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 environmental authority.</p>
I26	<p>Register of Regulated Structures</p> <p>A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.</p>

I27	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
I28	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition I10 has been achieved.
I29	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
I30	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this environmental authority, or their delegate, as being accurate and correct.
I31	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.

END OF CONDITIONS

Definitions

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

'Ambient' in relation to air quality means the immediate and extended surroundings of the authorised activity or receiving environment.

'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).

'ANZG 2018' means ANZG 2018; Australian and New Zealand Guidelines for Fresh and Marine Water Quality. This is available at <https://www.waterquality.gov.au/anz-guidelines>.

'Appropriately qualified person' means a person who:

- a) has qualifications and experience relevant to performing the function, including but not limited to:
 - i. a bachelor's degree in science or engineering; and
 - ii. at least 3 years' experience relevant to evaluating compliance with the requirements of the environmental authority conditions being audited; and
- b) has an ability to give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods, or literature; and
- c) is a member of at least one organisation prescribed in Schedule 8 of the Environmental Protection Regulation 2019; and
- d) is not an employee of, nor have a financial interest in, the holder(s), or person acting under the environmental authority, or any involvement with the holder(s) of the environmental authority which could lead to a conflict of interest.

'authorised activity' or **'authorised activities'** means the activities conducted under this environmental authority including but not limited to:

- a) authorised as per the definition in section 110 of the *Environmental Protection Act 1994*;
- b) all environmentally relevant activities authorised under this environmental authority;
- c) all mining disturbance including land clearing, construction of infrastructure, overburden removal and active mining, and the ancillary activities that support these activities, for example, but not limited to access and use of tracks and roads within the mining lease a.
- d) all activities referenced in a condition of the environmental authority.
- e) all care and maintenance activities; and
- f) rehabilitation.

'Background', with reference to the water schedule, means the average of samples taken prior to the commencement of the authorised activities from the same waterway that the current sample has been taken.

'Blasting' means the use of explosive materials to fracture:

- a) Rock, coal and other minerals for later recovery, or
- b) Structural components or other items to facilitate removal from a site or for reuse

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

‘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.

‘Commencement of authorised activities’ the day ‘authorised activities’ commence. For the purpose of this definition only, this does not include the following activities:

- a) access tracks for land management,
- b) fire breaks or
- c) disturbance associated with environmental monitoring and exploration.

‘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.

‘Contaminant’ is defined in section 11 of the *Environmental Protection Act 1994* as:

- a) a gas, liquid or solid; or
- b) an odour; or
- c) an organism (whether alive or dead), including a virus; or
- d) energy, including noise, heat, radioactivity and electromagnetic radiation;
- e) a combination of contaminants.

‘Disturbance’ of land includes:

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

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

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

‘EC’ means electrical conductivity.

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

‘FRREMP’ means a Fitzroy Basin Receiving Environment Monitoring Program for the region in which the EA is located, that has been endorsed in writing by the administering authority.

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

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

‘Hazardous contaminant’ means hazardous contaminant means a contaminant, other than an item of explosive ordnance, that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of—

- a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- b) its physical, chemical or infectious characteristics.

‘Hydrogeological unit’ is any soil or rock unit or zone that by virtue of its hydraulic properties has a distinct influence on the storage or movement of groundwater.

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

‘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.

‘m’ means metres.

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

‘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 2019 if it had not formed part of the mining activity
 - iii. rainfall runoff which has been in contact with any areas disturbed by authorised 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 authorised 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 authorised 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:
 1. areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site, or

2. 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
3. both.

‘Mineral waste’ means waste materials resulting from the extraction of coal including overburden, inter-burden, waste rock and rejects (including coarse and fine).

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

‘Monitoring bore’ means a groundwater bore that provides access to groundwater for measuring its quality and level; and allows groundwater samples to be withdrawn for laboratory analysis.

‘NATA’ means National Association of Testing Authorities, Australia.

‘Non-mineral waste’ all other waste generated by the authorised activities not identified in the definition for ‘mineral waste’

‘Participant of the FRREMP’ means an environmental authority holder that is identified as a current participant by the organisation carrying out the Regional REMP.

‘Peak particle velocity (ppv)’ means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mm/s).

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

Receiving environment in relation to an activity that causes or may cause environmental harm, means the part of the environment to which the harm is, or may be, caused. The receiving environment includes (but is not limited to):

- a) a watercourse;
- b) groundwater; and
- c) an area of land that is not specified in condition **A5** of this environmental authority.

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

‘Register of Regulated Structures’ includes:

- a) Date of entry in the register;
- b) Name of the structure, its purpose and intended/actual contents;
- c) The consequence category of the dam as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933);
- d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam;
- e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and ‘as constructed’ drawings;
- f) For the regulated dam, other than in relation to any levees –

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

‘Regulated structures’ means any structure in the significant or high consequence category as assessed using the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933) published by the administering authority. A regulated structure does not include:

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

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

‘Representative’ means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the authorised activities.

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

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

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- b) a motel, hotel or hostel; or

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

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

‘Substantial low frequency noise’ means a noise emission that has an unbalanced frequency spectrum shown in a one-third octave band measurements, with a predominant component within the frequency range 10 to 200 Hz. It includes any noise emission likely to cause an overall sound pressure level at a noise sensitive place exceeding 55 dB(Z).

‘Suitably qualified and experienced person’ means a person who is a Registered Professional Engineer of Queensland 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.

An appropriate level of expertise includes:

- a) demonstrable competency, experience and expertise in:
 - i. investigation, design or construction of watercourses diversions
 - ii. operation and maintenance of watercourse diversions
 - iii. geomechanics with particular emphasis on channel equilibrium, geology and geochemistry
 - iv. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology
 - v. hydraulics with particular reference to sediment transport and deposition and erosion control
 - vi. hydrogeology with particular reference to seepage and groundwater
 - vii. solute transport processes and monitoring thereof, or
- b) sufficient knowledge and experience to certify that where the suitably qualified and experienced person has relied on advice and information provided by other persons with relevant expertise*:
 - i. they consider it reasonable to rely on that advice and information
 - ii. the expert providing the advice and information has knowledge, competency, suitable experience and demonstrated expertise in the matters related to watercourse diversions.

*Persons with relevant expertise include:

- a) Geomorphologist: person who has demonstrated competency and relevant experience in stream geomorphology and watercourse diversions.
- b) Geotechnical Expert: person who has demonstrated competency and relevant experience in geotechnical assessment of soil characteristics suitable for watercourse diversions.
- c) Vegetation Expert: person who has demonstrated competency and relevant experience in the identification, role and function of vegetation with watercourses and adjoining floodplains, and has

demonstrated competency and relevant experience in revegetation of watercourse diversions and adjoining floodplains.

- d) Groundwater Expert: person who has demonstrated competency and relevant experience in groundwater systems.
- e) Surface Water Expert: person who has demonstrated competency and relevant experience in hydrology.
- f) Engineer: person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Persons Act 2002 or has similar qualifications under a respected professional registration association, and has demonstrated competency and relevant experience in design and construction of watercourse diversions.
- g) Soils Expert: person who has demonstrated competency and relevant experience in soil classification including the physical, chemical and hydrologic analysis of soil.

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

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

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

'Waters' includes all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed, and bank of any waters, non-tidal or tidal waters (including sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, water confined in natural or artificial structures and underground water (or groundwater).

'WaTERS' means Water Tracking and Electronic Reporting System or subsequent updated system, used to submit monitoring data and notify the Queensland Government. It is available at www.waters.des.qld.gov.au or by contacting psd.help@qld.gov.au.

'Watercourse' has the same meaning given in the *Water Act 2000*.

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

'Water Quality objective (WQO)' - A numerical concentration limit or narrative statement that has been established to support and protect the designated uses of water at a specified site. It is based on scientific criteria or water quality guidelines but may be modified by other inputs such as social, cultural or economic constraints. WQOs are specified in the EPP Water and Wetland Biodiversity (Part 4, Section 11).

END OF DEFINITIONS

Appendices

Appendix 1. Figure A1. Maximum Disturbance Areas

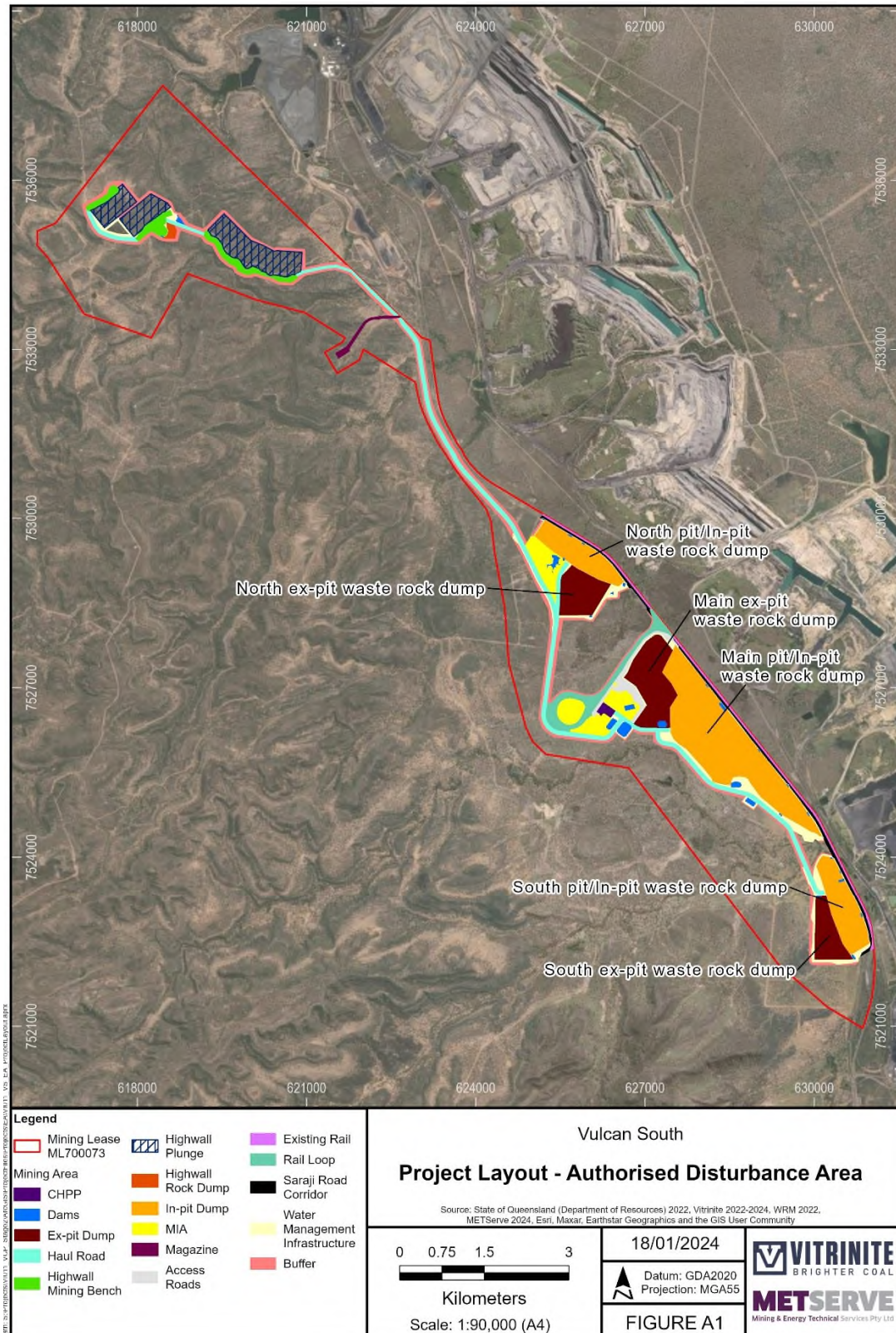
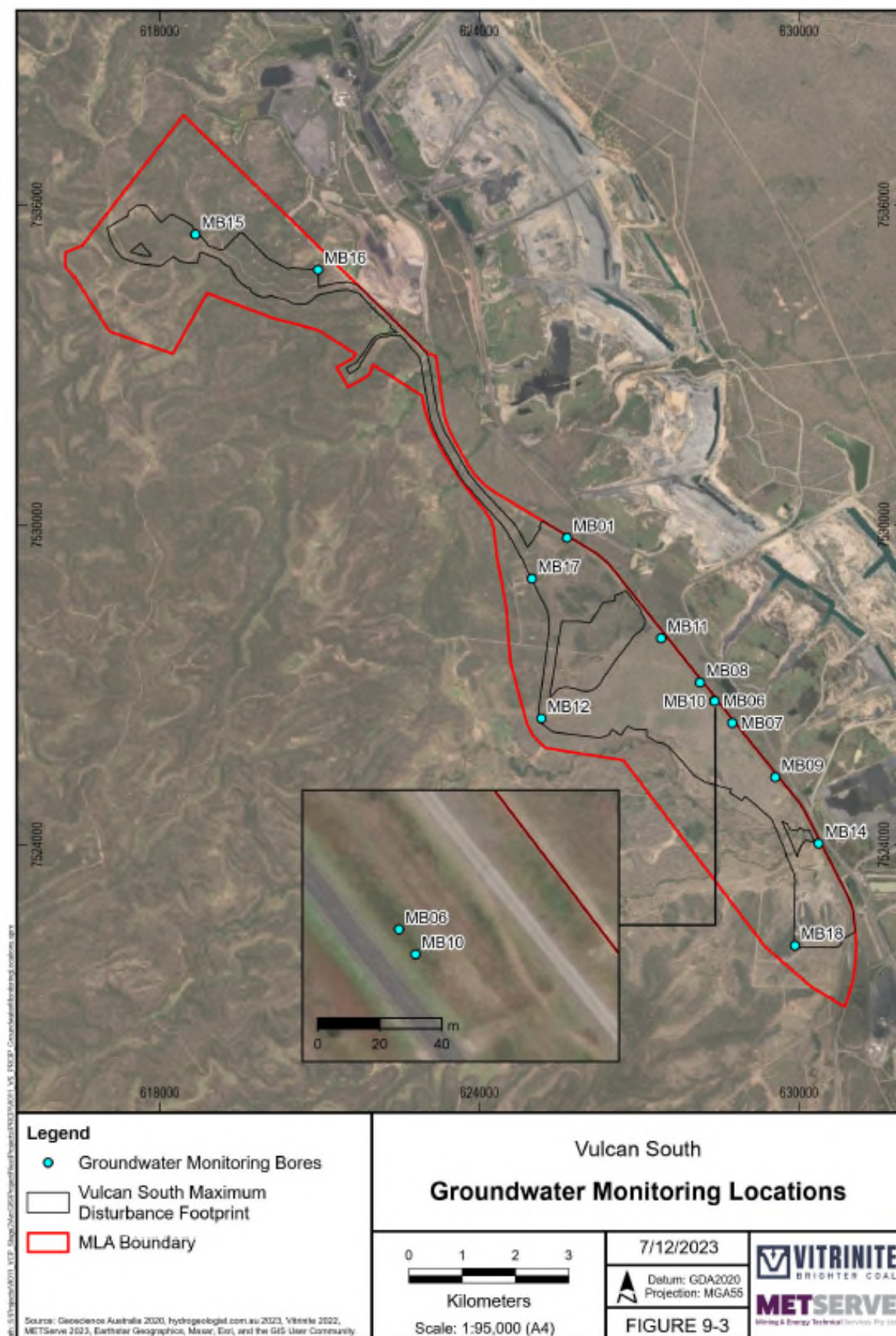


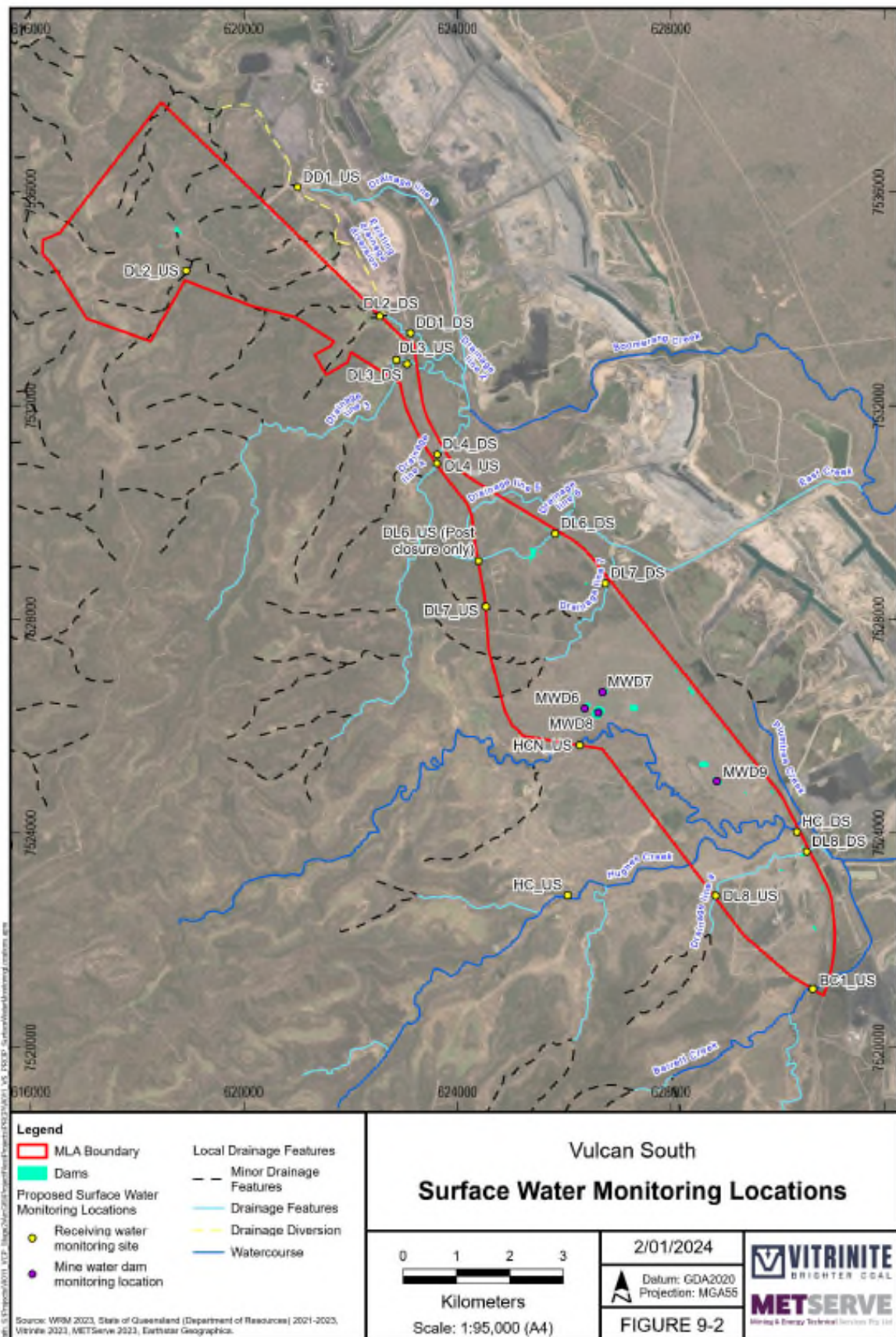
Figure A2. Project Layout – Authorised Disturbance Areas



Appendix 2. Figure E1 - Location of groundwater monitoring bores



Appendix 4. Figure F1 - Surface waters monitoring locations



Appendix 5. Impacted matters

Figure H1. Project footprint relative to Brigalow

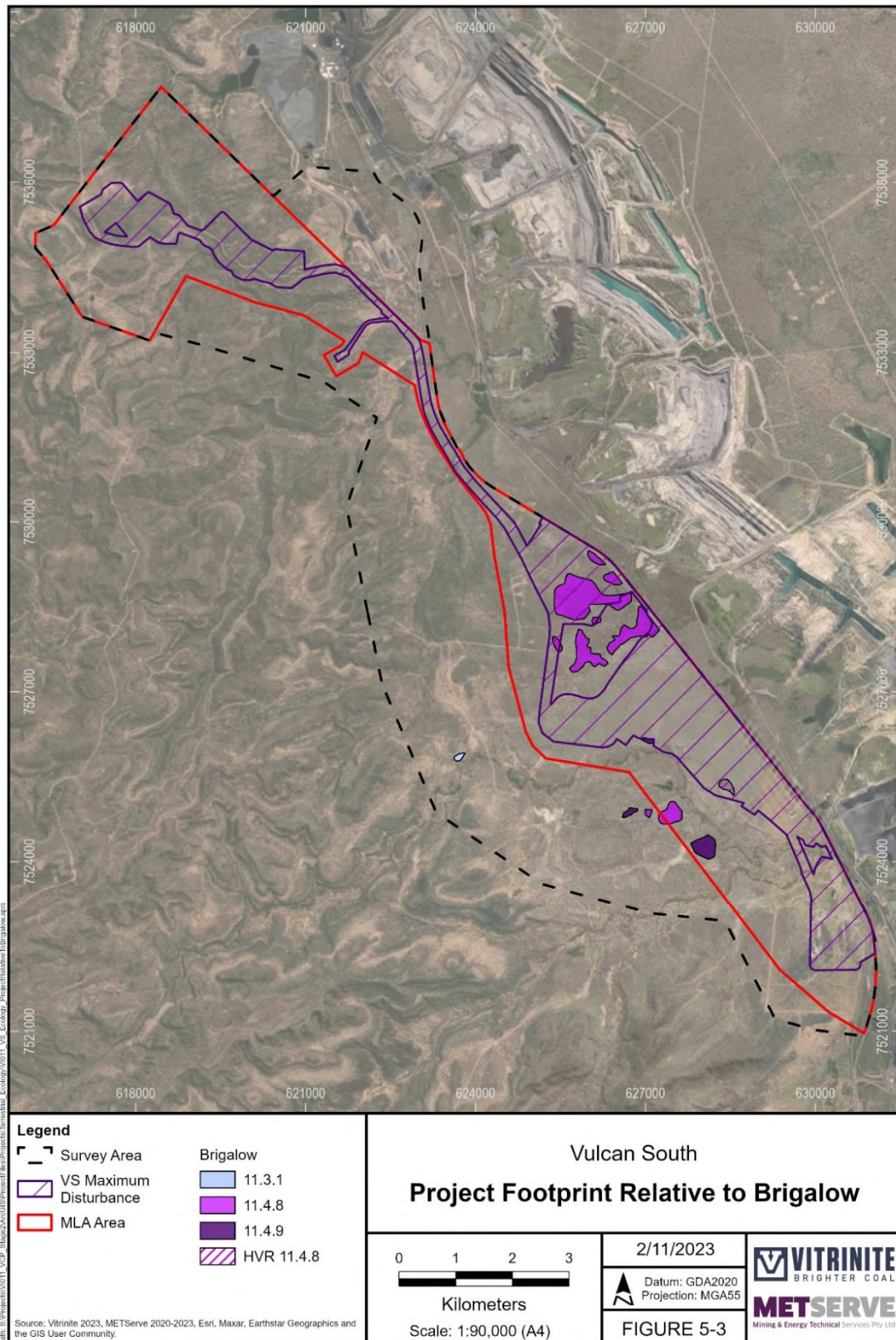


Figure H2. Project footprint relative to koala habitat

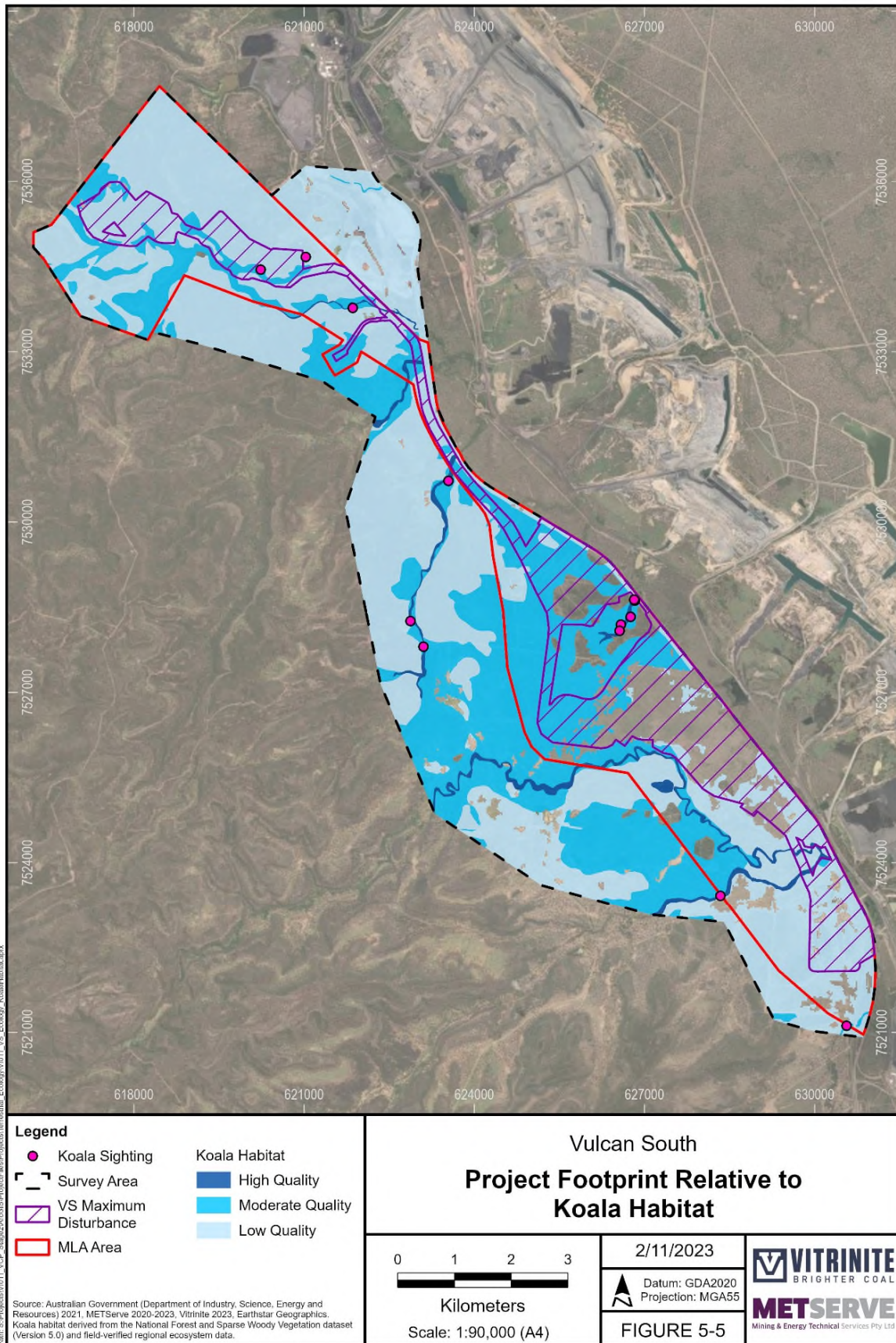


Figure H3. Project footprint relative to existing squatter pigeon habitat

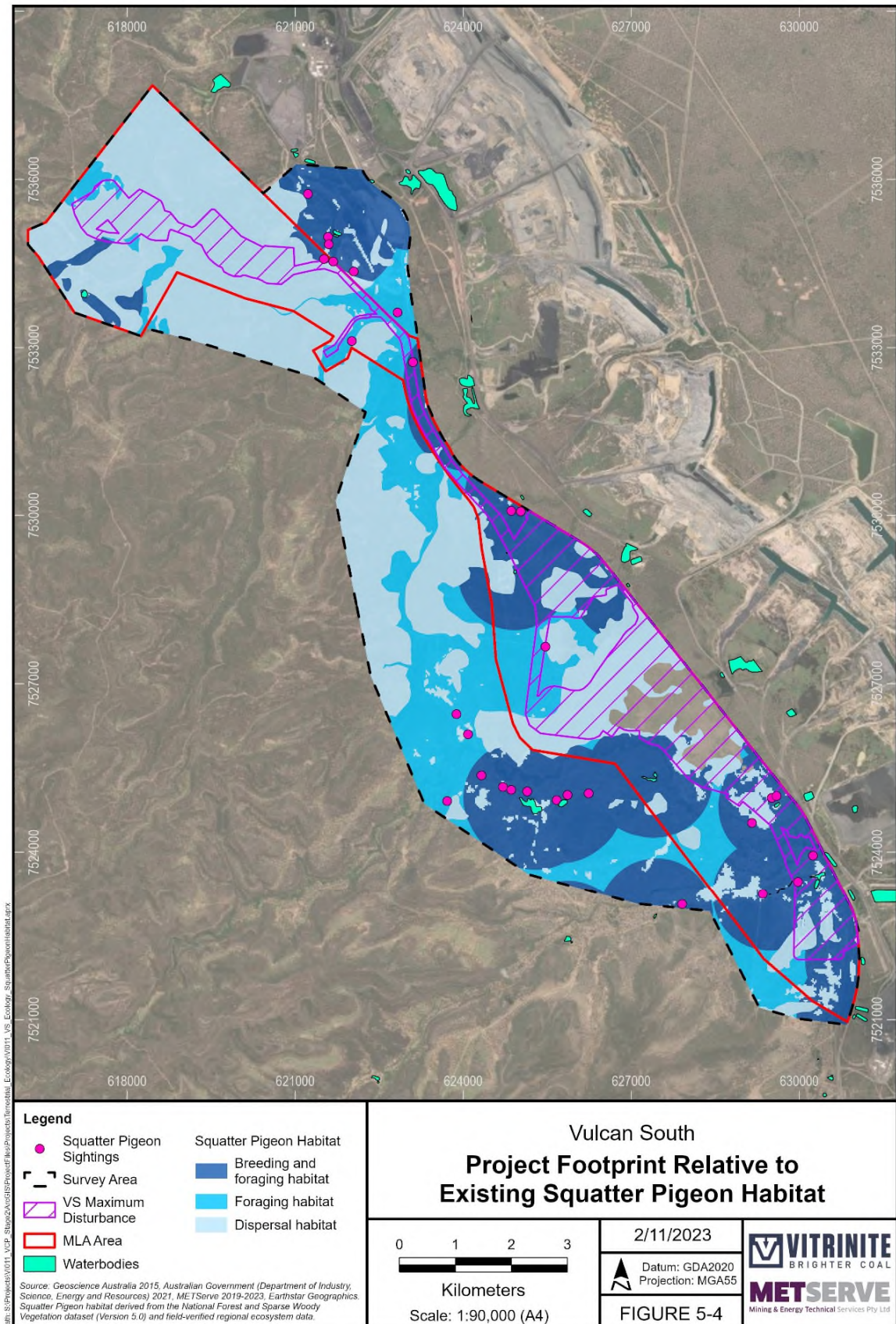


Figure H5. Project footprint relative to Glossy Black Cockatoo habitat

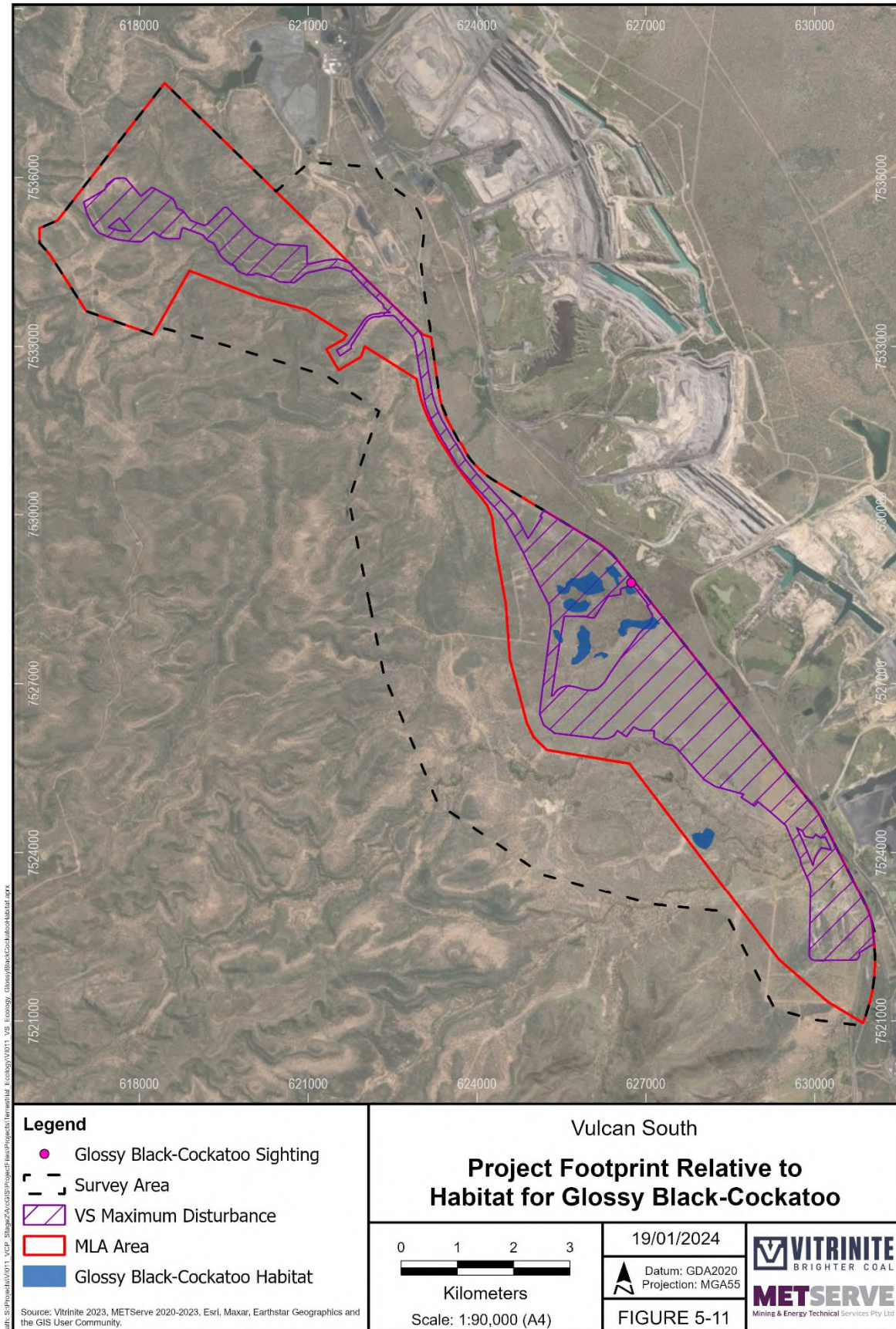


Figure H6. Project footprint relative to Of Concern Regional Ecosystem 11.3.2

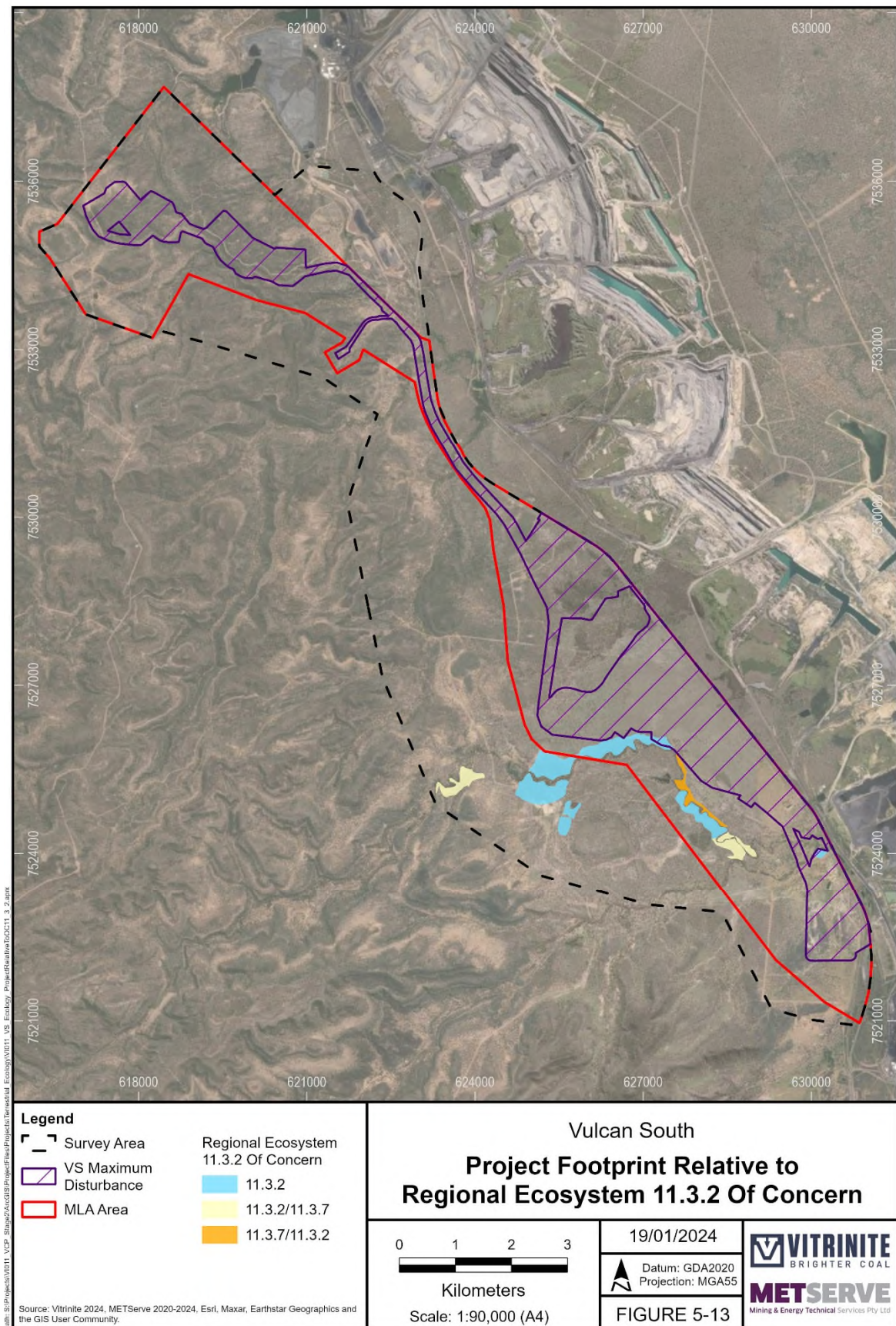
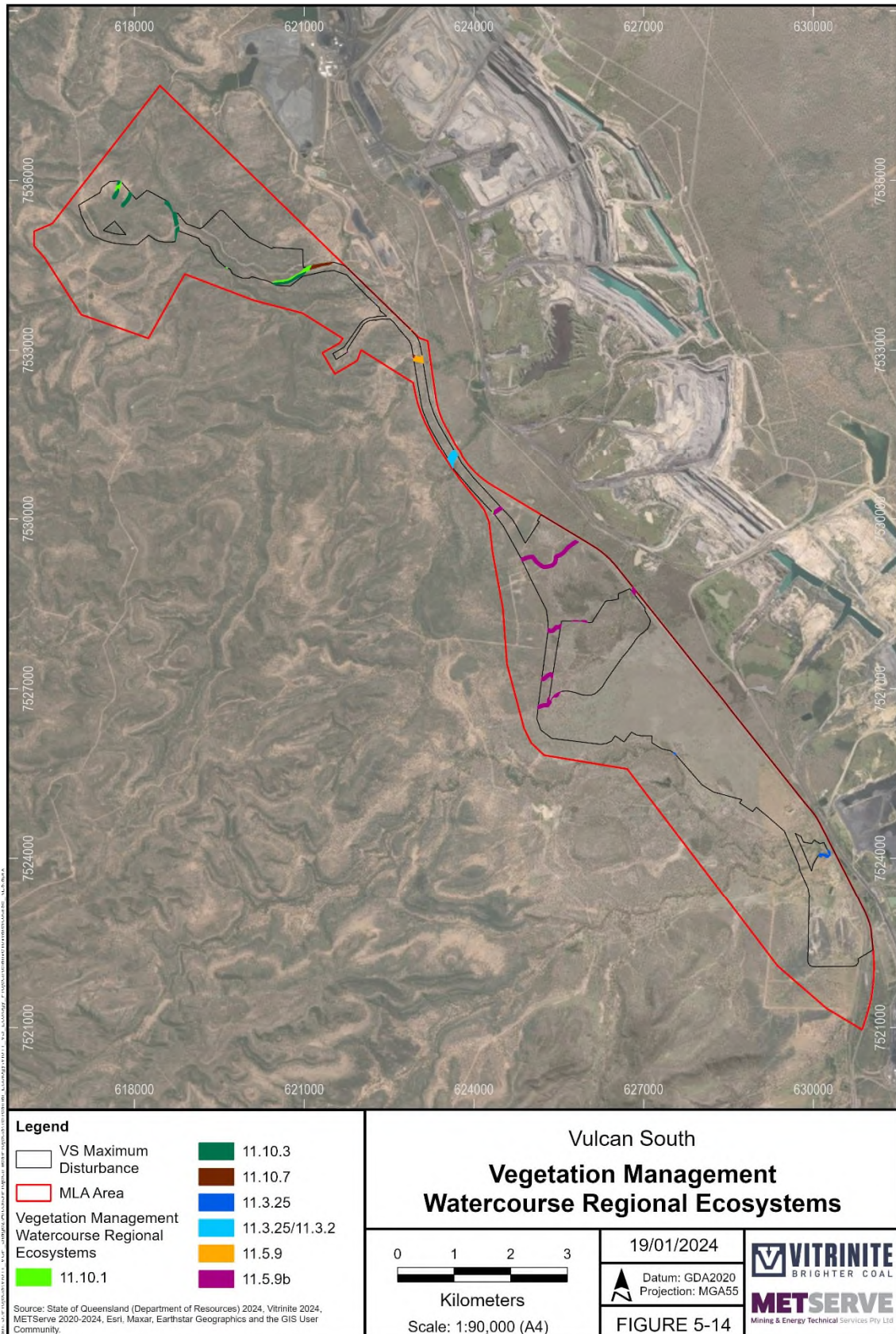


Figure H7. Project footprint relative to regional ecosystems within the defined distance of the defining banks of a watercourse



END OF ENVIRONMENTAL AUTHORITY