

Permit¹

Environmental Protection Act 1994 **Environmental Authority EPML01584713** **Springsure Creek Infrastructure Corridor**

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

Permit¹ number: EPML01584713

Environmental authority takes effect: 30 July 2018

Anniversary date: 30 July

Environmental authority holder(s)

Permit Holder(s)	Name	Registered address
Principal Holder	Springsure Creek Coal Pty Ltd ACN 119 713 601	Level 4, 260 Queen Street Brisbane QLD 4001

Environmentally relevant activity and location details

Environmentally relevant activities	Location
20 A mining activity that is an ineligible ERA, other than a mining activity mentioned in items 9 to 19 Schedule 2A – Environmental Protection Regulation 2008	ML70502

Additional information for applicants

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.

Definitions

Words and phrases used throughout this environmental authority are defined at the end of this environmental authority. Where a definition for a term used in this environmental authority is not provided within this environmental authority, but is provided in the ***Environmental Protection Act 1994*** or subordinate legislation, the definition in the EP Act or subordinate legislation must be used. If a word remains undefined it has its ordinary English meaning.

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation

Environmentally relevant activities

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

An environmental authority authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the authority 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 if an owner or occupier of land becomes aware a notifiable activity (as defined in Schedule 3 and Schedule 4) is being carried out on the land, or that the land has been, or is being, contaminated by a hazardous contaminant, the owner or occupier must, within 22 business days after becoming so aware, give written notice to the chief executive.

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)



Signature

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

30 July 2018

Date

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Conditions of environmental authority

Schedule A - General	
Condition number	Condition
A1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
A2	The mining activities authorised to be carried out under this environmental authority must not exceed the area of disturbance specified in Figure 2-3 Proposed disturbance area associated with the infrastructure corridor .
A3	Maintenance and operation of plant and equipment The holder of this environmental authority must: a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority b) maintain such measures, plant and equipment in a proper and efficient condition c) operate such measures, plant and equipment in a proper and efficient manner 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.
A4	Monitoring Except where specified otherwise in another condition of this environmental authority, all monitoring records or reports required by this environmental authority must be kept for a period of not less than five (5) years.
A5	Financial assurance Financial assurance must be provided in the amount and form required by the administering authority in accordance with the EP Act, prior to the commencement of activities proposed under this Environmental Authority.
A6	The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the environmental authority is amended.
A7	Risk Management The holder of this environmental authority must develop and implement a risk management system for mining activities which mirrors the content requirement of the Standard for Risk Management (ISO31000:2009), or the latest edition of an Australian standard for risk management, to the extent relevant to environmental management, from date of issue of this environmental authority.
A8	Notification of emergencies, incidents and exceptions The holder of this environmental authority must notify the administering authority by written notification within twenty-four (24) hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with, the conditions of this environmental authority.

A9	Within ten (10) business days following the initial notification of an emergency or incident, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following: a) results and interpretation of any samples taken and analysed b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm c) proposed actions to prevent a recurrence of the emergency or incident.
A10	Complaints The holder of this environmental authority must record all environmental complaints received about the mining activities including: a) name, address and contact number for of the complainant b) time and date of complaint c) reasons for the complaint d) investigations undertaken e) conclusions formed f) actions taken to resolve the complaint g) any abatement measures implemented h) person responsible for resolving the complaint.
A11	The holder of this environmental authority must, when requested by the administering authority, undertake relevant specified monitoring within a reasonable timeframe nominated or agreed to by the administering authority to investigate any complaint of environmental harm. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures, where implemented, must be provided to the administering authority within ten (10) business days of completion of the investigation, or no later than ten (10) business days after the end of the timeframe nominated by the administering authority to undertake the investigation.
A12	Third-party reporting The holder of this environmental authority must: a) within one (1) year of the commencement of this environmental authority, obtain from an appropriately qualified person a report on compliance with the conditions of this environmental authority; b) obtain further such reports at regular intervals, not exceeding three (3) yearly intervals, from the completion of the report referred to above; and c) provide each report to the administering authority within ninety (90) days of its completion.
A13	Where a condition of this environmental authority requires compliance with a standard, policy or guideline published externally to this environmental authority and the standard is amended or changed subsequent to the issue of this environmental authority, the holder of this environmental authority must: a) comply with the amended or changed standard, policy or guideline within two (2) years of the amendment or change being made, unless a different period is specified in the amended standard or relevant legislation, or where the amendment or change relates specifically to regulated structures referred to in Schedule G. b) until compliance with the amended or changed standard, policy or guideline is achieved, continue to remain in compliance with the corresponding provision that was current immediately prior to the relevant amendment or change.

Schedule B - Air	
Condition number	Condition
B1	Dust nuisance The holder of this environmental authority shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the dust and particulate matter emissions generated by the mining activities do not exceed the following levels when measured at any sensitive or commercial place: a) dust deposition of 120 milligrams per square metre per day, averaged over 1 month, when monitored in accordance with the most recent version of Australian Standard AS3580.10.1 Methods for sampling and analysis of ambient air—Determination of particulate matter—Deposited matter – Gravimetric method. b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, for no more than 5 exceedances recorded each year, when monitored in accordance with the most recent version of either: 1. Australian Standard AS3580.9.6 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM₁₀ high volume sampler with size-selective inlet – Gravimetric method; or 2. Australian Standard AS3580.9.9 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM₁₀ low volume sampler—Gravimetric method. c) a concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.10 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—PM (sub) 2.5 (/sub) low volume sampler—Gravimetric method. d) a concentration of particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time, when monitored in accordance with the most recent version of AS/NZS3580.9.3:2003 Methods for sampling and analysis of ambient air—Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method.
B2	The holder of this environmental authority must develop and implement an Air Quality Management Plan prior to the commencement of activities on ML70502.
B3	The Air Quality Management Plan must be made available to the administering authority on request.

Schedule C - Waste	
Condition number	Condition
C1	All general and regulated waste must be removed from site by a person who has the authority to transport such wastes to a facility that is lawfully able to accept the waste under the Environmental Protection Act 1994. <i>Note: It is an offence under the Stock Act 1915 and Stock Regulation 1988 to allow or fail to take every reasonable measure to prevent stock access to animal matter or animal contaminated matter.</i>
C2	Unless otherwise permitted by the conditions of this environmental authority or with prior approval from the administering authority and in accordance with a relevant standard operating procedure, waste must not be burnt.
C3	The holder of this environmental authority may burn vegetation cleared in the course of carrying out extraction activities provided the activity does not cause environmental harm at any sensitive place or commercial place.

Schedule D – Noise	
Condition number	Condition
D1	Noise limits The holder of this environmental authority must ensure that noise generated from the mining activities does not cause the criteria in Table D1: Noise limits to be exceeded at any sensitive or commercial place.
D2	Airblast overpressure The holder of this environmental authority must ensure that blasting does not cause the limits for peak particle velocity and airblast overpressure in Table D2: Blasting noise limits to be exceeded at any sensitive or commercial place.
D3	Monitoring and reporting Noise monitoring and recording must include the following descriptor characteristics and matters: - LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 mins) - background noise LA90 - the level and frequency of occurrence of impulsive or tonal noise and any adjustment and penalties to statistical levels - atmospheric conditions including temperature, relative humidity and wind speed and directions - effects due to any extraneous factors such as traffic noise - location, date and time of monitoring - if the complaint concerns low frequency noise, Max LpLIN,T and one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.

D4	A noise and vibration monitoring program must be developed by a suitably qualified and experienced person to monitor compliance with Table D1: Noise limits and Table D2: Blasting noise limits . The noise and vibration monitoring program must be implemented prior to the commencement of activities on ML70502.
D5	The noise and vibration monitoring program must be made available to the administering authority on request.

Table D1: Noise limits

Sensitive Place						
Noise level dB(A)	Monday to Saturday			Sunday and Public Holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am	9am – 6pm	6pm – 10pm	10pm – 9am
L _{Aeq} , adj, 15 mins	CV = 50 AV = 5	CV = 45 AV = 5	CV = 40 AV = 0	CV = 45 AV = 5	CV = 40 AV = 5	CV = 35 AV = 0
L _{A1} , adj, 15 mins	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5
Commercial Place						
Noise level dB(A)	Monday to Saturday			Sunday and Public Holidays		
	7am – 6pm	6pm – 10pm	10pm – 7am	7am – 6pm	6pm – 10pm	10pm – 7am
L _{Aeq} , adj, 15 mins	CV = 55 AV = 10	CV = 50 AV = 10	CV = 45 AV = 5	CV = 50 AV = 10	CV = 45 AV = 10	CV = 40 AV = 5

Note:

1. CV = Critical Value
2. AV = Adjustment Value
3. To calculate noise limits in Table D1:
If $bg \leq (CV - AV)$: Noise limit = $bg + AV$
If $(CV - AV) < bg \leq CV$: Noise limit = CV
If $bg > CV$: Noise limit = $bg + 0$
4. In the event that measured bg (**LA90, adj, 15mins**) is less than 30 dB(A) can be substituted for the measured background level.
5. Bg = background noise level (**LA90, adj, 15mins**) measured over 3-5 days at the nearest sensitive receptor.
6. If the project is unable to meet the noise limits as calculated above alternative limits may be calculated using the processes outlined in the '**Planning for Noise Control**' guideline.

Table D2: Blasting noise limits

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

Schedule E – Groundwater	
Condition number	Condition
E1	The holder of this environmental authority must not release contaminants to groundwater.
E2	Monitoring and reporting A groundwater monitoring program must be developed by an appropriately qualified and experienced person and implemented prior to the commencement of activities on ML70502.
E3	The construction, maintenance and management of groundwater monitoring bores must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.
E4	No impact to groundwater levels within the groundwater aquifers is to occur other than where authorised under an approval of the Water Act 2000 .

Schedule F – Water	
Condition number	Condition
F1	Contaminant release Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities.
F2	Temporary Interference with waterways Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with Department of Natural Resources and Mines (or its successor) Guideline – Activities in a Watercourse, Lake or Spring associated with Mining Activities .

F3	Saline drainage The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.
F4	Acid rock drainage The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.
F5	Stormwater and water sediment controls An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.
F6	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.

Schedule H – Sewage	
Condition number	Condition
H1	Sewage effluent is not permitted to be treated, stored or disposed of on ML70502.

Schedule J – Land and rehabilitation	
Condition number	Condition
J1	Topsoil management Topsoil must be strategically stripped ahead of mining activities in accordance with a Topsoil Management Plan.
J2	A topsoil inventory that identifies the topsoil requirements and availability of suitable topsoil on site must be detailed in the Plan of Operations.
J3	Topsoil and subsoil must be managed to ensure stability and to minimise the release of contaminants.
J4	Rehabilitation Land disturbed by mining activities must be rehabilitated in accordance with Appendix 1: Rehabilitation Requirements and Figure 12-6 Mapped GQAL across the Project area .
J5	Rehabilitation must be undertaken without unnecessary delay, or as soon as possible. So as to minimise the amount of time land is out of production or not in a suitably stable form, rehabilitation must commence as soon as it safe and practical to do so after the causative disturbance has ceased, and once there are no further physical or biological impediments to the successful rehabilitation of the subject area of land..

J6	Rehabilitation work must be completed on or before 30 July 2048.
J7	A Rehabilitation Management Plan must be developed by an appropriately qualified and experienced person and implemented prior to the commencement of activities on ML70502.
J8	Contaminated land Contaminants must not be released to land, other than contaminants that are authorised to be released under this environmental authority.
J9	The environmental authority holder must ensure that vehicle loads (including trains) are secure prior to transporting materials to minimise windblown emissions (i.e. coal dust) or spillage of any material during transport.
J10	Before applying for surrender of a mining lease, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the mining lease which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use.
J11	Before applying for progressive rehabilitation certification for an area, the holder must (if applicable) provide to the administering authority a site investigation report under the Act, in relation to any part of the area the subject of the application which has been used for notifiable activities or which the holder is aware is likely to be contaminated land, and also carry out any further work that is required as a result of that report to ensure that the land is suitable for its final land use under condition J4 .
J12	Chemicals and flammable or combustible liquids All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with the current Australian standard where such is applicable. Where no relevant Australian standard exists, such materials must be stored within an on-site containment system and controlled in a manner that prevents environmental harm.
J13	Mining waste Any mine waste generated as a result of mining activities must not be stored or disposed of on ML70502.
J14	Infrastructure All buildings, structures, mining equipment and plants erected and/or used for the mining activities must be removed from the site prior to surrender, except where agreed in writing by the administering authority.
J15	Strategic cropping land If there is any inconsistency between a decision made pursuant to the <i>Regional Planning Interests Act 2014</i> and this environmental authority, the <i>Regional Planning Interests Act 2014</i> decision prevails to the extent of the inconsistency.

Schedule K - Biodiversity	
Condition number	Condition
K1	Biodiversity offsets The holder of this environmental authority must provide a biodiversity offset for impacts on applicable state significant biodiversity values consistent with the requirements for an offset as identified in the Queensland Biodiversity Offset Strategy (as per condition K2): a) prior to impacting on state significant biodiversity values; or b) where a land based offset is to be provided, within twelve (12) months of the later of either of the following: i. the date of issue of this environmental authority; or ii. the relevant stage identified in the Biodiversity Offset Strategy submitted under condition K2; or c) where an offset payment is to be provided, within four (4) months of the later of either of the following: i. the date of issue of this environmental authority; or ii. the relevant stage identified in the Biodiversity Offset Strategy submitted under condition K2.
K2	A Biodiversity Offset Strategy must be developed and submitted to the administering authority within either thirty (30) days, or a lesser period agreed to by the administering authority, prior to impacting on the applicable state significant biodiversity values.

Schedule L - Cultural heritage	
Condition number	Condition
L1	No excavation, construction or other activity that may cause harm to Aboriginal cultural heritage may take place on ML70502 without the development and approval of a Cultural Heritage Management Plan under the <i>Aboriginal Cultural Heritage Act 2003</i>.

END OF PERMIT CONDITIONS

Appendix 1: Rehabilitation requirements

Mine Domain	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
Infrastructure (includes haul road, conveyor, fences, borrow pits, surface water features)	Sustainable land use	Maintain agricultural productivity	Agricultural Productivity	Certification by an appropriately qualified and experienced person that areas nominated for agriculture are maintaining an equal to or better production rate based on comparison to reference sites.
			Landform stability when cropped	Certification by an appropriately qualified and experienced person that the final land forms represent the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area , for: (a) Class A: support the best possible class of agricultural land; (b) Class B: support the best possible class of agricultural land; (c) Class C2: its predevelopment condition; and (d) Class C3: its predevelopment condition; (e) Class D: its predevelopment condition.
		Soil properties support the desired land use	Chemical properties (e.g. pH, salinity, nutrient content, sodium content) of topsoil and subsoil to support the proposed vegetation and land use.	Certification by an appropriately qualified and experienced person that the final land use represents the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area , for: (a) Class A: support the best possible class of agricultural land; (b) Class B: support the best possible class of agricultural land; (c) Class C2: its predevelopment condition; and (d) Class C3: its predevelopment condition; (e) Class D: its predevelopment condition.
			Physical properties of topsoil and subsoil to support the proposed vegetation	Certification by an appropriately qualified and experienced person that the final land use represents the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area , for: (a) Class A: support the best possible class of agricultural land;

			and land use.	(b) Class B: support the best possible class of agricultural land; (c) Class C2: its predevelopment condition; (d) Class C3: its predevelopment condition; and (e) Class D: its predevelopment condition.
			Top soil thickness	Certification by an appropriately qualified and experienced person that the final land use represents the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A and Class B: such that soil is reinstated and restored to its predevelopment condition, or where that is proven to be unreasonable, progressively rehabilitate the impacted land so it can support the best possible class of agricultural land; and (b) Class C2, Class C3 and Class D such that topsoil is at the predevelopment depth.
			Soil site characteristics	Certification that the soil site characteristics have acceptable levels of surface roughness, infiltration capacity, aggregate stability and surface condition. Certification by an appropriately qualified and experienced person that the final land use represents the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A and Class B: such that soil is reinstated and restored so it can support the best possible class of agricultural land; and (b) Class C2, Class C3 and Class D such that soil represents its predevelopment condition.
		Establish self-sustaining natural vegetation or	Presence of key plant species	Certification by an appropriately qualified and experienced person that key species identified for each reference site are present.

		habitat	Density of key plant species	Certification by an appropriately qualified and experienced person that the density of the key species is consistent with that identified for each reference site.
			Composition of key plant species	Certification by an appropriately qualified and experienced person that groundcover, shrub and canopy structure is similar or trending towards that of each reference site.
		Self-sustaining natural vegetation or habitat	Native fauna species	Certification by an appropriately qualified and experienced person that native fauna species or indicators of these species or key microhabitat elements are developing within the rehabilitated areas.
			Plant regeneration	Species in rehabilitated areas show evidence of flowering, viable seed setting, germination and emergence.
			Abundance of declared plants (weeds) identified through surveys	Certification by an appropriately qualified and experienced person that declared plants in rehabilitation areas are identified and managed in accordance with <i>Land Protection (Pest and Stock Route) Act 2002</i> .
			Abundance of exotic grasses	Certification by an appropriately qualified and experienced person that the abundance of exotic grass invasion is no greater than baseline condition as assessed against reference sites.
			Actions taken to manage declared plants under local or State legislation	Evidence that actions have been undertaken to manage declared plants in accordance with <i>Land Protection (Pest and Stock Route) Act 2002</i> .

			Abundance of declared animals identified through surveys	Certification by an appropriately qualified and experienced person that the abundance of declared animals has not increased significantly since baseline surveys and/or that a vertebrate pest control program is being implemented to reduce pest numbers.
			Management actions taken to control animals declared under local or State legislation.	Records indicating that the holder has actively been managing animals declared under local or State legislation on the site.
			Weed hygiene procedures	Records indicating that all machinery, plant and equipment used for rehabilitation was free of declared plant seed and reproductive material prior to entering the site.
	Stable landform	Landform design achieves appropriate erosion rates.	Slope angle and length	Evidence that the rehabilitated slopes have been designed to minimise water velocities.
			Engineered structures to control water flow	Evidence that required contour banks, channel linings, surface armour, etc. are in place and functioning.
			Rates of soil loss	Certification by a suitably qualified and experienced person that all land disturbed by the mining activities does not exhibit any signs of continued erosion greater than that exhibited the reference site. Reference and control sites will be established to monitor land disturbance which will be outlined in the Rehabilitation Management Plan (RMP)..
		Natural vegetation cover for self-sustaining	Natural vegetation type and density	Evidence that the natural vegetation type and density are of species suited to the slope, aspect, climate and other factors, and that the soil erosion meet the goals set in the RMP. Reference and controls sites to monitor and assess vegetation type and density will be outlined in the RMP.

		community and to minimise erosion		Natural vegetation types and densities are comparable with the relevant reference site.
		Run off drainage lines mirror natural stream functions	Design and stability of drainage lines	Document how drainage lines have changed over the course of the Project and that they are stable at closure and are likely to remain that way into the foreseeable future.
	Non-polluting	Water contained on site	Downstream surface water quality	Certification by an appropriately qualified and experienced person that surface water quality at monitoring locations is not negatively impacted compared to the baseline monitoring results by the rehabilitated landform.
			Groundwater quality	Certification by an appropriately qualified and experienced person that groundwater monitoring indicates that the groundwater quality is not negatively impacted compared to the baseline monitoring results by the rehabilitated landform.
			All permanent drainage channels will meet approved design criteria	Certification by a suitably qualified and experienced person that the permanent drainage channels have been constructed and are operating in accordance with approved design criteria.
		Hazardous materials adequately managed	Exposure to and availability of heavy metals and other toxic materials	Evidence that measures required to remediate contaminated land have been implemented and waste disposed of appropriately.
	Long term safety	Rehabilitation or conversion of exploration drill holes and	All non-artesian exploration drill holes undertaken on the Mining Lease	Certification by an appropriately qualified and experienced person that all non-artesian exploration drill holes not converted to either a water bore or a groundwater monitoring bore have been rehabilitated.

		groundwater monitoring bores	(ML70502) have been rehabilitated or converted to water bores	Certification by an appropriately qualified and experienced person, that all sub-artesian aquifers have been isolated where non-artesian exploration drill holes have intersected more than one sub-artesian water bearing strata, in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' (Australian Government, February 2012) or latest edition. Certification by an appropriately qualified and experienced person that all non-artesian exploration drill holes converted to a water bore have been converted in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' (Australian Government, February 2012) or latest edition.
			All monitoring bores undertaken on the Mining Lease (ML70502) have been rehabilitated	Certification by an appropriately qualified and experienced person that all non-artesian exploration drill holes converted to water bores are compliant with the requirements of the Water Act 2000 . Certification by an appropriately qualified person that all monitoring bores have been rehabilitated in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' (Australian Government, February 2012) or latest edition.
		Structurally safe with no hazardous materials	Safety assessment of landform stability (geotechnical studies)	Certification by an appropriately qualified and experienced person that site slopes are now safe and will remain so. Risks assessment has been completed and risk mitigation measures have been implemented. In the unlikely event where risk mitigation measures are included e.g. bunds, safety fences and warning signs, these have been erected in accordance with relevant guidelines and Australian Standards.
		Site is safe for humans and animals	Appropriate decommissioning of infrastructure	Certification by an appropriately qualified and experienced person that the infrastructure has been decommissioned and rehabilitated. Buildings, water storage(s), roads (except those used by the public), and other infrastructure have been removed unless stakeholders have entered into formal written agreements for their retention. Areas are readily accessible and conducive to safe cattle management and cropping activities.
Other Lands (includes agricultural and grazing)	Sustainable land use	Agriculture and cattle grazing	Agricultural productivity	Certification by an appropriately qualified and experienced person that areas nominated for agriculture are maintaining an equal to or better production rate based on comparison to reference sites.

lands and native vegetation)			Landform stability when cropped	Certification by an appropriately qualified and experienced person that the final land forms represents the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A: support the best possible class of agricultural land; (b) Class B: support the best possible class of agricultural land; (c) Class C2: its predevelopment condition; (d) Class C3: its predevelopment condition; and (e) Class D: its predevelopment condition.
			Landform stability when grazed	Land maintenance requirements are comparable to designated reference sites. Safety of landform for stock and for undertaking management activities associated with stock.
			Access to water sources	Water used by agriculture and landholders meets land use requirements in terms of quality and availability.
		Soil properties support the desired land use	Chemical properties (e.g. pH, salinity, nutrient content, sodium content) of topsoil and subsoil to support the proposed vegetation and land use.	Certification by an appropriately qualified and experienced person that the final land forms represent the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A: support the best possible class of agricultural land; (b) Class B: support the best possible class of agricultural land; (c) Class C2: its predevelopment condition; (d) Class C3: its predevelopment condition; and (e) Class D: its predevelopment condition.
			Physical properties of topsoil and subsoil to support the proposed vegetation and land use.	Certification by an appropriately qualified and experienced person that the final land forms represent the equivalent GQAL criteria as per the per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A: support the best possible class of agricultural land; (b) Class B: support the best possible class of agricultural land; (c) Class C2: its predevelopment condition;

				(d) Class C3: its predevelopment condition; and (e) Class D: its predevelopment condition.
			Top soil thickness	Evidence that topsoil has been respread according to the pre-mining depths. Certification by an appropriately qualified and experienced person that the final land forms represent the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A and Class B: such that soil is reinstated and restored to its predevelopment condition, or where that is proven to be unreasonable, progressively rehabilitate the impacted land so it can support the best possible class of agricultural land; and (b) Class C2, Class C3 and Class D such that topsoil is at the predevelopment depth.
			Soil site characteristics	Certification that the soil site characteristics have acceptable levels of surface roughness, infiltration capacity, aggregate stability and surface condition. Certification by an appropriately qualified and experienced person that the final land forms represent the equivalent GQAL criteria as per the following areas on Figure 12-6 Mapped GQAL across the Project area, for: (a) Class A and Class B: such that soil is reinstated and restored so it can support the best possible class of agricultural land; and (b) Class C2, Class C3 and Class D such that soil represents its predevelopment condition.
		Establish self-sustaining natural vegetation or habitat	Presence of key plant species	Certification by an appropriately qualified and experienced person that key species identified prior to mining are present and within relevant reference sites.
			Density of key plant species	Certification by an appropriately qualified and experienced person that the density of the key species is consistent relevant reference sites.

		Self-sustaining natural vegetation or habitat	Composition of key plant species	Vegetation types and densities and the composition of key plant species are comparable with the relevant reference site.
			Native fauna species	Certification by an appropriately qualified and experienced person that native fauna species are present or indicators of these species or key microhabitat elements are developing within the rehabilitated areas.
			Plant regeneration	Species in rehabilitated areas show evidence of flowering, viable seed setting, germination and emergence.
			Abundance of declared plants (weeds) identified through surveys	Certification by an appropriately qualified and experienced person that declared plants within the rehabilitation area are identified and managed in accordance with the <i>Land Protection (Pest and Stock Route) Act 2002</i> .
			Abundance of exotic grasses	Certification by an appropriately qualified and experienced person that the abundance of exotic grass invasion is no greater than the baseline condition as assessed against reference sites.
			Actions taken to manage declared plants under local or State legislation	Evidence that actions have been undertaken to manage declared plants in accordance with the <i>Land Protection (Pest and Stock Route) Act 2002</i> .
			Abundance of declared animals identified through surveys	Certification by an appropriately qualified and experienced person that the abundance of declared animals has not increased significantly since baseline surveys and/or that a vertebrate pest control program is being implemented to reduce pest numbers.

			Management actions taken to control animals declared under local or State legislation	Records indicating that the holder has actively been managing animals declared under local or State legislation on the site.
			Weed hygiene procedures	Records indicating that all machinery, plant and equipment used for rehabilitation was free of declared plant seed and reproductive material prior to entering the site.
	Stable Landform	Landform design achieves appropriate erosion rates	Engineered structures to control water flow	Evidence that required contour banks, channel linings, surface armour, etc. are in place and functioning.
			Rates of soil loss	Certification by a suitably qualified and experienced person that all land disturbed by the mining activities does not exhibit any signs of continued erosion greater than that exhibited in the reference site.
		Vegetation cover for self-sustaining community and to minimise erosion	Vegetation type and density	Evidence that the vegetation type and density are of species suited to the slope, aspect, climate and other factors, and that the soil erosion meets the goals set in the site RMP.
		Run off drainage lines mirror natural stream functions	Design and stability of drainage lines	Document how drainage lines have changed over the course of the Project and that they are stable at closure and are likely to remain that way into the foreseeable future.

	Non-polluting	Water contained on site	Downstream surface water quality	Certification by an appropriately qualified and experienced person that surface water quality at monitoring locations is not negatively impacted compared to the baseline monitoring results by the rehabilitated landform
			Groundwater quality	Certification by an appropriately qualified person that groundwater monitoring indicates that the groundwater quality is not negatively impacted compared to the baseline monitoring results by the rehabilitated landform.
			Final landform water storages are contained on site, with no overflows into external surface water systems	Certification by an appropriately qualified and experienced person that surface water monitoring indicates that surface water quality is not negatively impacted compared to the baseline monitoring results by the rehabilitated landform.
			All permanent drainage channels will meet approved design criteria	Certification by a suitably qualified and experienced person that the permanent drainage channels have been constructed and are operating in accordance with approved design criteria.
	Long term safety	Rehabilitation or conversion of exploration drill holes and groundwater monitoring bores	All non-artesian exploration drill holes undertaken on the Mining Lease (ML70502) have been rehabilitated or converted to water bores	Certification by an appropriately qualified and experienced person that all non-artesian exploration drill holes not converted to either a water bore or a groundwater monitoring bore have been rehabilitated.
				Certification by an appropriately qualified and experienced person, that all sub-artesian aquifers have been isolated where non-artesian exploration drill holes have intersected more than one sub-artesian water bearing strata, in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' (Australian Government, February 2012) or latest edition.
				Certification by an appropriately qualified and experienced person that all non-artesian exploration drill holes converted to a water bore have been converted in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' (Australian Government. February 2012) or latest edition.

			All monitoring bores undertaken on the Mining Lease (ML70502) have been rehabilitated	Certification by an appropriately qualified and experienced person that all non-artesian exploration drill holes converted to water bores are compliant with the requirements of the Water Act 2000 . Certification by an appropriately qualified and experienced person that all monitoring bores have been rehabilitated in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' (Australian Government, February 2012) or latest edition.
		Structurally safe with no hazardous materials	Safety assessment of landform stability (geotechnical studies)	Certification by a suitably qualified and experienced person that site slopes are now safe and will remain so. Risks assessment has been completed and risk mitigation measures have been implemented. Where risk mitigation measures include bunds, safety fences and warning signs, these have been erected in accordance with relevant guidelines and Australian Standards.

Note: It is an offence under the Land Protection (Pest and Stock Route Management Act) 2002 to fail to control Class 1 or Class 2 pests on a Mining Lease or to move or transport a vehicle containing the reproductive material of a declared pest.

Definitions

Words and phrases used throughout this environmental authority are defined below. Where a definition for a term used in this environmental authority is not provided within this environmental authority, but is provided in the **Environmental Protection Act 1994** or subordinate legislation, the definition in the EP Act or subordinate legislation must be used. If a word remains undefined it has its ordinary English meaning.

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

'activities' means the preparation of land, construction of infrastructure and equipment and/or undertaking mining activities.

'administering authority' means the Department of Environment and Heritage Protection or its successor.

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

'annual exceedance probability or AEP' the probability that at least one event in excess of a particular magnitude will occur in any given year.

'annual inspection report' means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan);

- a) against recommendations contained in previous annual inspections reports;
- b) against recognised dam safety deficiency indicators;
- c) for changes in circumstances potentially leading to a change in consequence category;
- d) for conformance with the conditions of this authority;
- e) for conformance with the 'as constructed' drawings;
- f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems);
- g) for evidence of conformance with the current operational plan.

'ambient noise' at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

'ANZECC' means the ***Australian and New Zealand Guidelines for Fresh Marine Water Quality 2000***.

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

'ARMCANZ' means the ***Agriculture and Resource Management Council of Australia and New Zealand 2000***.

'artesian bore' includes a shaft, well, gallery, spear or excavation and any works constructed in connection with the shaft well, gallery, spear or excavation that taps an aquifer and the water flows, or has flowed, naturally to the surface.

'assessed and assessment' by a suitably qualified and experienced person in relation to a hazard assessment of a dam, means that a statutory declaration has been made by that person and, when together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment:

- a) exactly what has been assessed and the precise nature of that determination;
- b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

'associated works' in relation to a dam, means:

- a) operations of any kind and all things constructed, erected or installed for that dam; and
- b) any land used for those operations.

'authority' means an environmental authority or development approval.

'background' means the average of samples taken prior to the commencement of mining from the same location that the current sample has been taken.

'bed and banks' for waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently, but does not include land adjoining or adjacent to the bed and banks that is from time to time covered in floodwater.

'beneficial use' in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

- a) of benefit to that owner in that it adds real value to their business or to the general community;
- b) in accordance with relevant provisions of the ***Environmental Protection Act 1994***;
- c) sustainable by virtue of written undertakings given by that owner to maintain that dam; and
- d) the transfer and use have been approved or authorised under any relevant legislation.

'biodiversity offset' means a biodiversity offset that meets the requirements of the Queensland Biodiversity Offsets Policy.

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

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

'certification', 'certifying' or 'certified' by an appropriately qualified and experienced person means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all the following aspects are addressed and are sufficient to allow an independent audit at any time:

- a) exactly what is being certified and the precise nature of that certification;
- b) the relevant legislation, regulatory and technical criteria on which the certification has been based;

- c) the relevant data and facts on which the certification has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- d) the reasoning on which the certification has been based using the relevant data and facts, and the relevant criteria.

‘certification’, ‘certifying’ or ‘certified’ in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, ‘as constructed’ drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

‘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;
- 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 mining activities’ means the commencement of activities permitted by the issue of a mining lease under the ***Mineral Resources Act 1989*** for the operational land.

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

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

‘consequence category’ means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the ***Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)***.

‘construction’ or ‘constructed’ in relation to a regulated structure includes building a new regulated structure and modifying or lifting an existing regulated structure, but does not include investigations and testing necessary for the purpose of preparing a design plan.

‘contaminants’ means substances rendered impure by contact or mixture.

'contaminant' can be:

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

'control measure' means any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

'dam' means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean 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.

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

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

'design storage allowance or DSA' means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability (AEP)** specified in that Manual.

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

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

'disturbance' of land includes:

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

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

- a) areas off lease (e.g. roads or tracks which provide access to the mining lease);

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

‘EC’ means electrical conductivity.

‘end of pipe’ means the location at which water is released to waters or land.

‘effluent’ treated waste water released from sewage treatment plants.

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

‘existing structure’ means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

‘extreme storm storage’ means a storm storage allowance determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

financial assurance’ means a security required under the *Environmental Protection Act 1999* by the administering authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental authority.

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

GQAL’ means Good Quality Agricultural Land as defined in the Queensland *Planning Guidelines: The Identification of Good Quality Agricultural Land* (Department of Primary Industries and Department of Housing, Local Government and Planning, January 1993).

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

‘ha’ means hectares.

‘holder’ means:

- a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or

- b) where this document is a development approval, any person who is the registered operator for that development approval.

‘hydraulic performance’ means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the ***Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)***.

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

‘LA’ means the A-weighted noise level exceeded for N% of a given measurement period denoted as LAN of that level e.g. LA1 is the noise level exceeded for 1% of the time.

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

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

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

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

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

‘low consequence dam’ means any dam that is not a high or significant hazard category as assessed using the ***Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)***.

‘m’ means metres.

‘mandatory reporting level or MRL’ means a warning and reporting level determined in accordance with the criteria in the ***Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*** published by the administering authority.

‘manual’ means the ***Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*** published by the administering authority.

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

‘mine affected water’:

- a) means the following types of water:

- i. pit water, tailings dam water, processing plant water;
 - ii. water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the ***Environmental Protection Regulation 2008*** if it had not formed part of the mining activity;
 - iii. rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
 - iv. groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
 - v. groundwater from the mine's dewatering activities;
 - vi. a mix of mine affected water (under any of paragraphs i)-v) and other water.
- b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
- i. land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
 - ii. land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
 - a) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
 - b) evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
 - iii. both.

'mine waste' means waste rock, spoil, overburden, tailings and rejects.

'mining activity' means:

- (a) an activity that is an authorised activity for a mining tenement under the Mineral Resources Act 1989; or
- (b) another activity that is authorised under an approval under the Mineral Resources Act 1989 that grants rights over land.

'modification or modifying' see definition of 'construction'.

'NATA' means National Association of Testing Authorities, Australia.

'natural flow' means the flow of water through waters caused by nature.

'non-polluting' means having no adverse impacts upon the receiving environment.

'operational plan' includes:

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

(b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

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

‘protected area’ means – a protected area under the *Nature Conservation Act 1992*; or

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

‘RBL’ means Rating Background Noise Level.

‘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 this environmental authority.

The term does not include land that is specified in this environmental authority.

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

‘reference site’ means a site with the same chemical and physical characteristics including:

- slope and slope length;
- fire regime;
- production rate or stocking rate;
- land maintenance requirements;
- type, density and composition of key vegetation species;
- abundance of exotic grass invasion;
- signs of continued erosion and dimensions and frequency of occurrence of erosion rills and gullies;
- groundcover, shrub and canopy structure; and
- Agricultural Land Class

as that of the targeted rehabilitated land.

‘register of regulated dams’ includes:

- a) Date of entry in the register;
- b) Name of the dam, its purpose and intended/actual contents;
- c) The consequence category of the dam as assessed using the Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635);
- 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 dam’ means any dam in the significant or high hazard category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

‘regulated structure’ includes land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

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

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

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

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

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

‘sensitive place’ means:

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- b) a motel, hotel or hostel; or
- c) an educational institution; or
- d) a medical centre or hospital; or

- e) a protected area under the **Nature Conservation Act 1992**, the **Marine Parks Act 1992** or a World Heritage Area; or
- f) a public park or gardens.

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

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

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

'structure' means dam or levee.

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

'state significant biodiversity values' are those values listed in Appendix 1 of the Queensland Biodiversity Offsets Policy.

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

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

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

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

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

‘targeted rehabilitated land’ means land with targeted rehabilitation requirements, for which a reference site must be identified such that the reference site has same site characteristics as those required for the land after rehabilitations is complete. For example, if rehabilitated land is required to be of Agricultural Land Class A1 (the target of the rehabilitated land is class A1), the reference site must be of class A1, and similarly of other characteristics.

‘the Act’ means the *Environmental Protection Act 1994*.

‘µS/cm’ means micro siemens per centimetre.

‘void’ means any constructed, open excavation in the ground.

‘waste’ has the same meaning given in the *Environmental Protection Act 1994*.

‘watercourse’ has the same meaning given in the *Water Act 2000*.

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

‘waters’ includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater runoff and groundwater.

‘water year’ means the 12 month period from 1 July to 30 June.

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

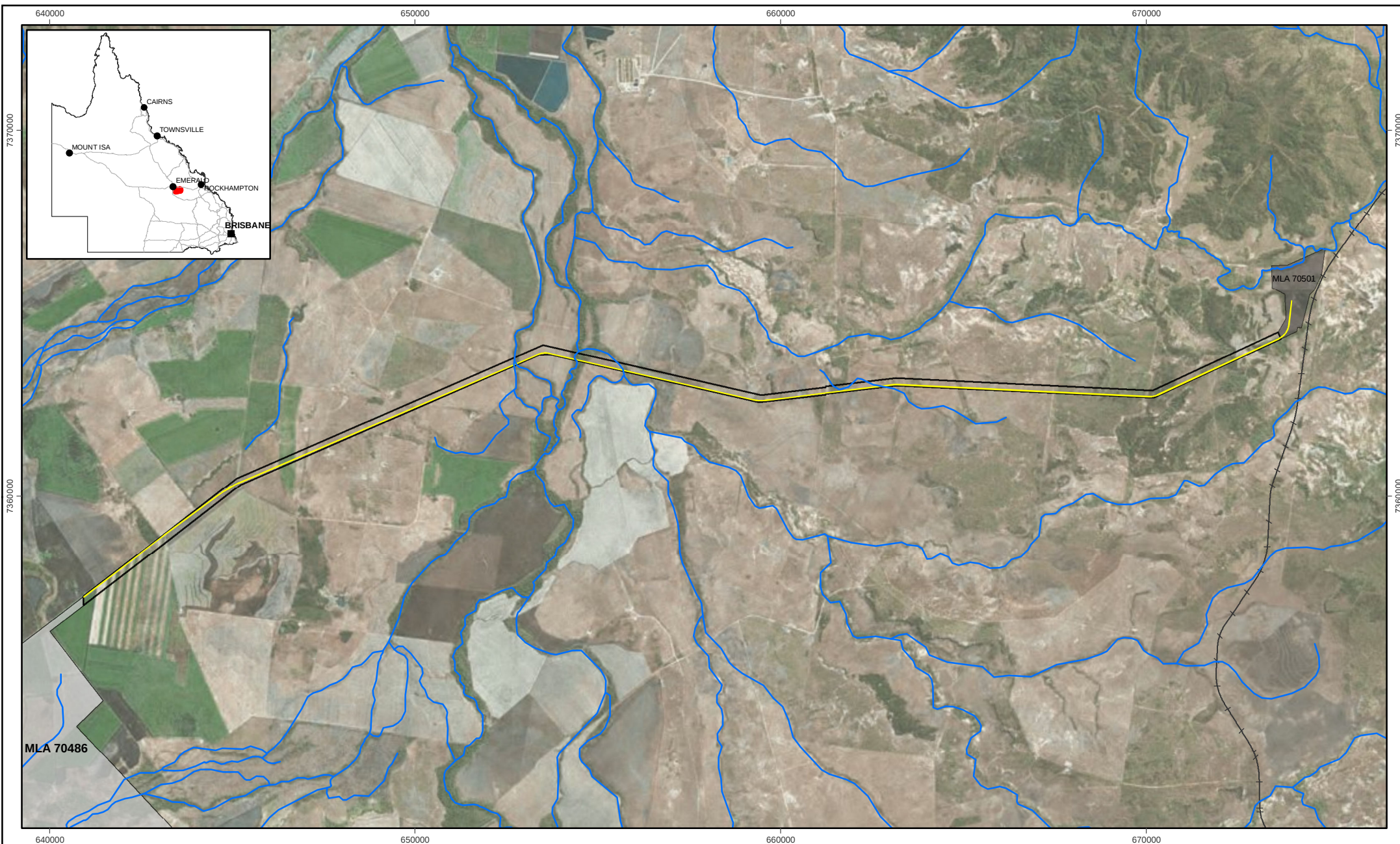


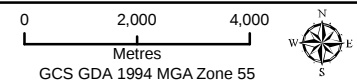
Figure 2-3 Proposed disturbance area associated with the infrastructure corridor

Key

- | | | | |
|--|---|--|---|
| | Proposed Infrastructure Corridor | | Existing Railway |
| | Proposed Train Load Out Facility
MLA 70501 | | Watercourse |
| | Proposed SCC Mine
MLA 70486 | | Proposed Haul Road
(Maximum Impact Area) |

DISCLAIMER
CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

Data Source:
Bandanna Energy, 2013;
EHP, 2012; Geofab v2;
BingMaps, 2011.



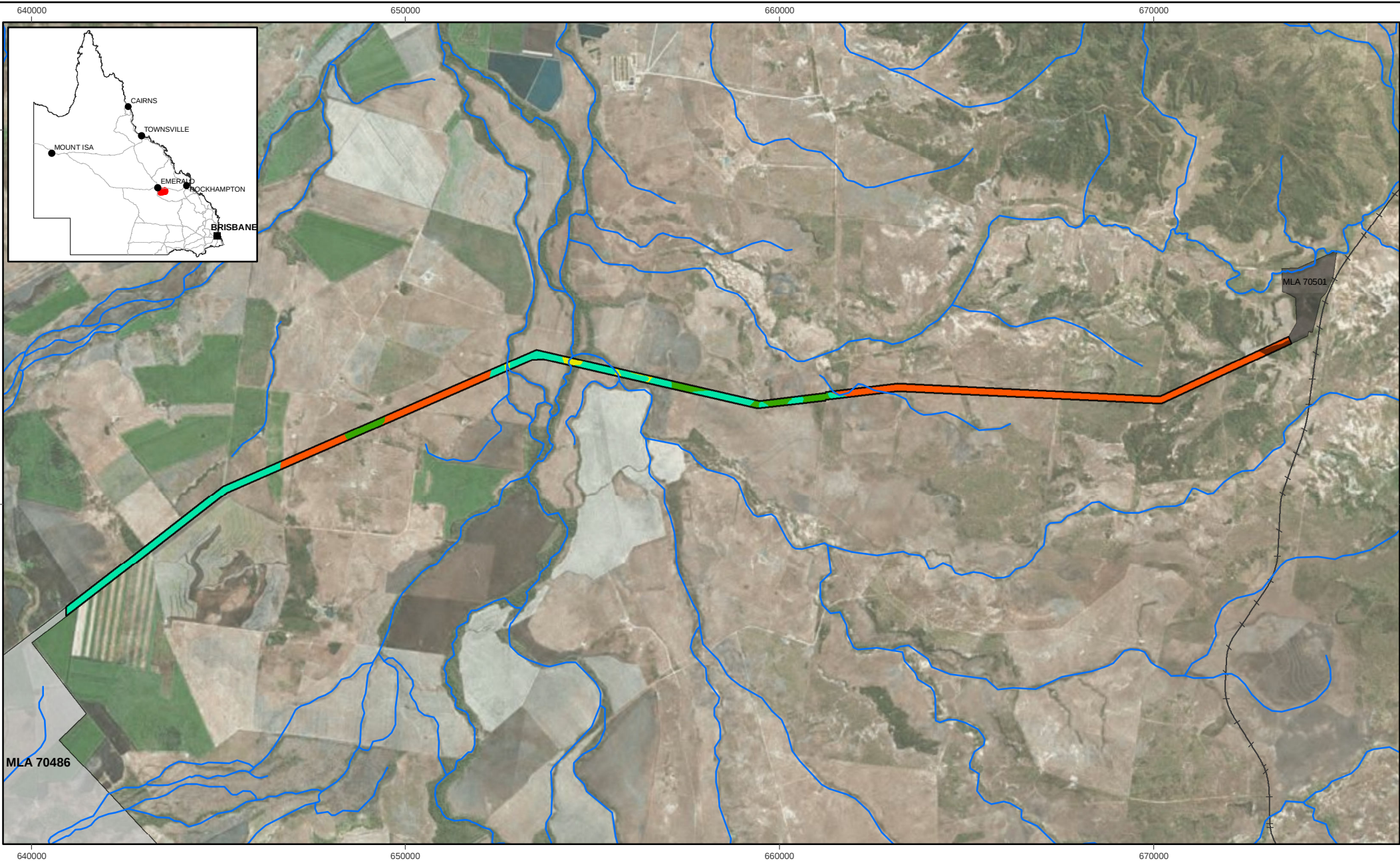


Figure 12-6 Mapped GQAL across the Project area

Key

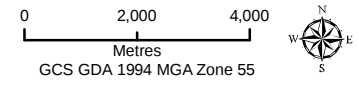
- | | |
|--|--|
|  Proposed Infrastructure Corridor |  Existing Railway |
|  Proposed Train Load Out Facility |  Watercourse |
|  Proposed Mine Lease Area | |

Class

- | |
|--|
|  Class A |
|  Class B |
|  Class C2 |
|  Class C3 |
|  Class D |

DISCLAIMER
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Data Source:
Bandanna Energy, 2013;
EHP, 2010; Geofab v2;
Survey by GTES, 2013;
BingMaps, 2011.



END OF PERMIT