

Permit

Environmental Protection Act 1994

Environmental authority EPML00410913

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

Environmental authority number: EPML00410913

Environmental authority takes effect on 30 April 2013

Environmental authority holder(s)

Name(s)	Registered address
QPHOS PTY LTD	Level 1 261 Queen Street BRISBANE QLD 4001 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Ancillary 60 - Waste disposal 2: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b) (a) less than 2000t	ML90190
Schedule 3 21: A mining activity that is an ineligible ERA, other than a mining activity mentioned in items 9 to 20	ML90190

Additional information for applicants

Environmentally relevant activities

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

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

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

Environmental authority

Contaminated land

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

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

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

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

Take effect

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

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

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

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

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

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

Enquiries:
Minerals Business Centre
Department of Environment and Science
Phone: 07 4222 5352
Email: ESCairns@des.qld.gov.au

Date issued: 10 August 2021

Environmental authority

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)

Conditions of environmental authority

Location: D-Tree North DSO Mine, approximately 120km north, north-west of Mount
Isa ML90190

Relevant activities:

ERA Number	ERA Description (refer to Schedule 2, <i>Environmental Protection Regulation 2008</i>)	Aggregate Environmental Score
60(2)(a)	Waste disposal - operating a facility for disposing of, in a year, the following quantity of general waste - 50t to 2000t	13
Activity	Level 1 mining project description (refer to Schedule 6, <i>Environmental Protection Regulation 2008</i>)	Aggregate Environmental Score
Mining – ML other – 20, Site Specific	Mining activities that are ineligible ERAs, other than mining activities mentioned in items 9 to 19	136

The environmentally relevant activities conducted at the location as described above must be conducted in accordance with the following site-specific conditions of approval.

SCHEDULE OF CONDITIONS

This environmental authority consists of the following schedules of conditions relevant to various issues:

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise
- Schedule E - Waste
- Schedule F - Land and rehabilitation
- Schedule G - Definitions
- Schedule H - Maps

Schedule A - General

Activity

- A1 This environmental authority does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is not a condition or the authority is silent on a matter, the lack of a condition or silence shall no be construed as authorising harm.
- A2 The environmental authority holder must:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority and the general environmental duty;
 - (b) maintain such measures, plant and equipment in a proper condition;
 - (c) operate such measures, plant and equipment in a proper manner; and
 - (d) ensure that all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated and appropriately operated and maintained.
- A3 The environmental authority holder must take all action necessary to secure loads (ie. ore) prior to transporting materials off site to minimise emissions or spillage of any material from vehicles or other transport infrastructure.
- A4 No change, replacement or alteration of any plant or equipment is permitted if the change, replacement or alteration increases, or is likely to increase, the risk of environmental harm caused by the mining activities.
- A5 All instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated, and appropriately operated and maintained.
- A6 The environmental authority holder must record, compile, evaluate and keep all monitoring results, records and documents required by this environmental authority, and any complaints received about the mining activities, and produce copies, or make available for inspection all or any of these records upon request by the administering authority.

Financial assurance

- A7 Prior to the commencement of mining activities under this environmental authority, the environmental authority holder must provide a financial assurance of an amount and in a form requested by the administering authority.
- A8 The financial assurance must remain in force until the administering authority notifies the holder of this environmental authority that it is satisfied that no claim on the assurance will be required.

Emergency or incident response/ Contingency planning

- A9 An emergency or incident response / contingency plan must be developed to manage likely emergencies and incidents that may occur as a result of the mining activities carried out at the site.

- A10 The emergency or incident response/ contingency plan must address the following matters:
- (a) response procedures to be implemented to reduce the likelihood of any release of contaminants to the environment;
 - (b) response procedures to prevent any further release or if such is not practicable, minimise the extent and duration of any release to the greatest practicable extent;
 - (c) plans for accessing monitoring points specified in this environmental authority during emergencies and incidents;
 - (d) the practices and procedures to be employed to restore the environment, or if such is not practicable, mitigate any environmental impacts of the release;
 - (e) a description of the resources to be used in response to a release;
 - (f) the training of staff that will be called upon to respond to a release;
 - (g) procedures to investigate the cause of any release, and where necessary, implement remedial actions to reduce the likelihood of recurrence of a similar event;
 - (h) the provision and availability of documented procedures to staff attending any release to enable them to effectively respond; and
 - (i) timely and accurate reporting of the circumstance and nature of release events to the administering authority.

Notification - administering authority

- A11 The environmental authority holder must notify the administering authority by telephone or facsimile immediately after becoming aware of any emergency or incident resulting in, or having the potential to cause, environmental harm or any breach of condition of this environmental authority concerning releases of contaminants to the environment.
- A12 The notification in condition (A11) must include the following:
- (a) the environmental authority number and name of holder;
 - (b) the name and telephone number of the designated contact person;
 - (c) the location of the emergency or incident;
 - (d) the date and time of the incident;
 - (e) the time the holder of the environmental authority became aware of the incident;
 - (f) the estimated quantity and type of any substances involved in the incident;
 - (g) the actual or potential cause of the incident;
 - (h) a description of the nature and effects of the incident including environmental harm caused, threatened, or suspected to be caused by the incident
 - (i) any sampling conducted or proposed, relevant to the emergency or incident; and
 - U) immediate actions taken to prevent any further release and mitigate any environmental harm caused by the release.

- A13 Within fourteen (14) days following the initial notification of an emergency or incident, further written advice must be provided to the administering authority, including the following:
- (a) results and interpretation of all samples taken and analysed (if available, if not yet available nominate a timeframe acceptable to the administering authority);
 - (b) details of notification provided to potentially impacts stakeholders are required in condition (A15);
 - (c) outcomes of actions taken at the time to prevent or minimise environmental harm; and
 - (d) proposed actions to prevent a recurrence of the emergency or incidence.
- A14 As soon as practicable, but not more than six (6) weeks following the conduct of any environmental monitoring performed in relation to the 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, written advice must be provided of the results of any such monitoring performed to the administering authority.

Notification - stakeholders

- A15 The environmental authority holder must notify any potentially impacted stakeholder by telephone or facsimile immediately after becoming aware of any emergency or incident that has the potential to impact on environmental values or breaches any condition of this environmental authority concerning releases of contaminants to the environment.
- A16 The notification in condition (A15) must include the following:
- (a) the location of the release;
 - (b) the date and time of the release;
 - (c) the estimated quantity and type of any substances involved in the release;
 - (d) the potential impacts to environmental values caused by the release; and
 - (e) Where there is potential impact on livestock or human health, precautionary measures that should be taken.

Complaints

- A17 Records must be kept of all environmental complaints received about the mining activities including the following details:
- (a) name, address and contact number for complainant (if not available record - not identified);
 - (b) time and date of complaint;
 - (c) reasons for the complaint;
 - (d) investigations undertaken;
 - (e) conclusions formed;
 - (f) actions taken to resolve complaint;
 - (g) any abatement measures implemented; and
 - (h) person responsible for resolving the complaint.

This information must be made available for inspection by the administering authority on request.

- A18 When requested by the administering authority, the environmental authority holder must undertake relevant specified monitoring within a period of 4 weeks to investigate any complaint of environmental harm at any sensitive place or commercial place. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within fourteen (14) days of completion of the investigation.

Third party auditing

- A19 Compliance with the conditions of this environmental authority must be audited by an appropriately qualified third party auditor, nominated by the holder of this environmental authority and accepted by the administering authority, within one year of the submission of the first plan of operations and again one year after the approval of the plan of operations.
- A20 Upon receipt of the final third party audit report, the holder of this environmental authority must submit a copy to the administering authority.
- A21 The third party auditor must certify the independent findings of the audit in the report.
- A22 The financial cost of the third party audit is the responsibility of the holder of this environmental authority

END OF CONDITIONS FOR SCHEDULE A

Schedule B -Air

- B1 The release of noxious or offensive odour or any other airborne contaminant resulting from the mining activities must not cause environmental harm at any sensitive place or commercial place.
- B2 When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- B3 In accordance with Conditions B1 and B2 the environmental authority holder must ensure that dust generated by the mining activities does not cause any of the following criteria at any sensitive place or commercial place to be exceeded:
- (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with the most recent version of Australian Standard AS 3580.10.1 *Methods of sampling and analysis of ambient air- Determination of particulate matter - Deposited matter - Gravimetric method*;
 - (b) Total suspended particulates (TSP) of 130 micrograms per cubic metre expressed as a 24 hour average, when monitored in accordance with any method for measuring TSP recommended in the latest edition of the administering authority *Air Quality Sampling Manual*.
 - (c) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometres (PM10) suspended in the atmosphere of 150 micrograms per cubic meter over a 24 hour averaging time, when monitored in accordance with the most recent version of Australian Standard AS 3580.9.6 *Determination of suspended particulate matter- PM₁₀ high volume sampler with size selective inlet - Gravimetric method*.
- B4 If monitoring indicates the limits in condition B3 have been exceeded, the environmental authority holder must undertake an investigation to identify the cause of the exceedence. If the exceedence is found to be attributable to the licensed activity, the environmental authority holder must implement dust abatement measures so that emissions of dust generated by the mining activities do not exceed limits listed in condition B3.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

Release to waters

C1 Contaminants must not be released directly or indirectly to any waters.

Receiving environment monitoring program

C2 Receiving waters must be monitored at the locations defined in Table C1 (Receiving water monitoring locations) and identified in Schedule H - Map C1 for the parameters identified in Table C2 (Receiving water contaminant trigger levels) at a frequency of:

- (a) One sample must be taken within 12 hours of a flow event¹ commencing and a second sample must be taken between 12 and 24 hours after the flow event¹ commences.
- (b) Where a flow event¹ has a duration of 24 hours or greater, samples must be taken daily for four days, once a week for a month and then monthly thereafter.

¹ Flow event is a surface water flow that occurs in West Thornton Creek and/or Galah Creek as a result of rainfall.

Table C1 (Receiving waters monitoring locations)

Monitoring point	Easting MGA (GDA 94)	Northing MGA (GDA 94)
Receiving Waters		
DTE West Thornton Creek, 1 kilometre downstream of the site	283088	7821619
M West Thornton Creek, 6 kilometres downstream of the site	284041	7826001
Reference Sites		
OTA West Thornton Creek, 30 metres upstream of site access road	2861167	7816158
OTB Galah Creek, 30 metres upstream of the site access road	282098	7818392

Reference sites must:

- (a) be from the same bio-geographic and climatic region; and
- (b) have similar geology, soil types and topography; and
- (c) contain a range of habitats similar to those at the test sites; and
- (d) have a similar flow regime; and
- (e) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site

Table C2 (Receiving water contaminant trigger levels)

Parameter	Unit	Trigger Levels	Limit Type
pH	pH unit	20 th percentile ^{1,5} of reference ⁴ or 6.0 ³ , whichever is lower. 80 th percentile ^{1,5} of reference ⁴ or 7.5 ³ , whichever is higher	Median ⁶
EC	µS/cm	80 th percentile ^{1,5} of reference ⁴ or 250 ³ , whichever is higher	Median ⁶
Turbidity	NTU	80 th percentile ^{1,5} of reference ⁴ or 15 ³ , whichever is higher	Median ⁶
Sulphate	µg/L	80 th percentile ^{1,5} of reference ⁴	Median ⁶
Fluoride	µg/L	80 th percentile ^{1,5} of reference ⁴	Median ⁶
Arsenic	µg/L	80 th percentile ^{2,5} of reference ⁴ or 13 ^{3,9} , whichever is higher	
Cadmium	µg/L	80 th percentile ^{2,5} of reference ⁴ or 0.2 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Copper	µg/L	80 th percentile ^{2,5} of reference ⁴ or 1.4 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Iron	µg/L	80 th percentile ^{2,5} of reference ⁴ or 300 ⁸ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Lead	µg/L	80 th percentile ^{2,5} of reference ⁴ or 3.4 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Nickel	µg/L	80 th percentile ^{2,5} of reference ⁴ or 11 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Silver	µg/L	80 th percentile ^{2,5} of reference ⁴ or 0.05 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Zinc	µg/L	80 th percentile ^{2,5} of reference ⁴ or 8.0 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}

¹ An interim trigger value can be derived from ≥ 8 but ≤ 17 consecutive reference site samples⁴, derived using DERM (2006) methodology (section 3.4.3.1).

² For toxicants, trigger values are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples⁴, derived using the DERM (2006) methodology (Table D1, and section 3.4.3.1).

³ Default trigger values – from ANZECC 2000 trigger levels for aquatic ecosystems indicative of slightly disturbed tropical Australian upland river ecosystems.

⁴ Reference sites are defined in Table C1.

⁵ 20th, 80th and 95th percentiles are calculated using ANZECC 2000 methodology (section 7.4.4.1).

⁶ The median and 95th percentile must be determined on the most recent three (3) consecutive routine monitoring samples. Comparison against trigger and contaminant limits should be made to maximum test values collected during discharge and flow events.

⁷ The median limit type is used if the 80th percentile trigger level is used, or if the default trigger level is used when there are <24 reference site values used to calculate the 80th percentile. The 95th percentile limit type is used if the default trigger level is used when there are 24 reference site values used to calculate the 80th percentile.

⁸ Interim (low reliability) value from ANZECC 2000 section 8.3.7.1.

⁹ If arsenic (soluble) exceeds 13 µg/L then speciation to As(III) and As(V) must be conducted. The As(III) and As(V) levels must not exceed the 80th percentile of reference site samples⁴ or the respective default trigger level: As(III) – 24 µg/L; As(V) – 13 µg/L.

Note: Analysis for dissolved metal concentrations.

- C3 If receiving waters exceed any of the contaminant trigger levels stated in Table C2 (Receiving water contaminant trigger levels), the environmental authority holder must:
- (a) complete an investigation in accordance with ANZECC 2000 methodology, into the potential for environmental harm;
 - (b) provide a written report to the administering authority within 3 months of the date of the original exceedence, specifying:
 - (i) details of investigations carried out; and
 - (ii) actions taken to prevent environmental harm.
- C4 Receiving waters must not exceed any of the contaminant limits defined in Table C3 (Receiving water contaminant limits).

Table C3 (Receiving water contaminant limits)

Parameter	Unit	Test Value	Contaminant Limit
pH	pH unit	Range	Lower limit 5.0 ³ Upper limit 9.0 ³
EC	µS/cm	Maximum	5970 ¹
Sulphate	mg/L	Maximum	1000 ¹
Fluoride	mg/L	Maximum	2 ¹
Arsenic	mg/L	Maximum	0.5 ¹
Cadmium	mg/L	Maximum	0.002 ²
Copper	mg/L	Maximum	1 ¹
Lead	mg/L	Maximum	0.01 ²
Nickel	mg/L	Maximum	0.2 ²
Silver	mg/L	Maximum	0.1 ²
Zinc	mg/L	Maximum	3 ²

¹ Contaminant limit based on ANZECC 2000 stock water quality guidelines.

² Contaminant limit based on NHMRC Drinking Water Guidelines (2006)

³ Page 4.2-15 of ANZECC 2000 "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

Note: Analysis for total metal concentrations.

Environmental impact monitoring program**Permit**

- C5 The holder of the environmental authority must conduct an environmental impact monitoring program biannually (early wet season and late wet season) of the surface water and biological monitoring sites identified in Table C4 (Environmental impact monitoring locations) and Schedule H -MapC1.

Table C4 (Environmental impact monitoring locations)

Site Code	Easting MGA (GDA94)	Northing MGA (GDA94)	Location
Upstream Sites			
DTA	281167	7816158	West Thornton Creek, 30 metres upstream of site access road
DTB	282098	7818392	Galah Creek, 30 metres upstream of the site access road
Downstream Sites			
DTE	283088	7821619	West Thornton Creek, 1 kilometre downstream of the site
M	284041	7826001	West Thornton Creek, 6 kilometres downstream of the site
R	283934	7823016	Off stream wetland

- C6 The environmental impact monitoring program must include:
- (a) physical, chemical and biological assessment of water and habitat quality;
 - (b) sufficient spatial and temporal replication (including controls) to enable statistically valid conclusions to be made concerning any impacts of the licensed activity on water quality; and
 - (c) an assessment of whether environmental values are being protected.
- C7 A report on the environmental impact monitoring program must be submitted by 1 July each year to the administering authority.

Groundwater

- CB Groundwater quality and level must be monitored at the locations and frequencies defined in Table C5 (Groundwater monitoring locations and frequency) and Schedule H - Map C2 for parameters identified in Table C6 (Groundwater trigger levels).

Table CS (Groundwater monitoring locations and frequency)

Monitoring Point	Easting MGA (GDA94)	Northing MGA (GDA94)	Surface RL ¹ (mAHD)	Monitoring Frequency
Compliance Bores				
Bean Tree bore	283655	7825465	244.7	Quarterly
Reference Bores²				
D Tree bore	281834	7818130	260.5	Quarterly

¹ RL measurement to be taken from top of bore casing

² Reference sites must:

- (a) be from the same bio-geographic and climatic region; and
- (b) have similar geology, soil types and topography; and
- (c) contain a range of habitats similar to those at the test sites; and
- (d) have a similar flow regime; and
- (e) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site

Table C6 (Groundwater trigger levels)

Permit

Parameter	Unit	Trigger Levels	Limit Type
pH	pH unit	20 th percentile ^{1,5} of reference ⁴ or 6.0 ³ , whichever is lower. 80 th percentile ^{1,5} of reference ⁴ or 7.9 ¹⁰ , whichever is higher	Median ⁶
EC	µS/cm	80 th percentile ^{1,5} of reference ⁴ or 800 ¹⁰ , whichever is higher	Median ⁶
Turbidity	NTU	80 th percentile ^{1,5} of reference ⁴ or 15 ³ , whichever is higher	Median ⁶
Sulphate	mg/L	80 th percentile ^{1,5} of reference ⁴ or 500, whichever is higher	Median ⁶
Fluoride	mg/L	80 th percentile ^{1,5} of reference ⁴ or 1 whichever is higher	Median ⁶
Arsenic	µg/L	80 th percentile ^{2,5} of reference ⁴ or 13 ^{3,9} , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Cadmium	µg/L	80 th percentile ^{2,5} of reference ⁴ or 0.2 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Copper	µg/L	80 th percentile ^{2,5} of reference ⁴ or 1.4 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Lead	µg/L	80 th percentile ^{2,5} of reference ⁴ or 3.4 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Nickel	µg/L	80 th percentile ^{2,5} of reference ⁴ or 11 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Silver	µg/L	80 th percentile ^{2,5} of reference ⁴ or 0.05 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Zinc	µg/L	80 th percentile ^{2,5} of reference ⁴ or 8.0 ³ , whichever is higher	Median ^{6,7} or 95 th percentile ^{5,6,7}
Level	m	N/A measured for interpretation purpose only	

¹ An interim trigger value can be derived from ≥ 8 but ≤ 17 consecutive reference site samples⁴, derived using DERM (2006) methodology (section 3.4.3.1).

² For toxicants, trigger values are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples⁴, derived using the DERM (2006) methodology (Table D1, and section 3.4.3.1).

³ Default trigger values – from ANZECC 2000 trigger levels for aquatic ecosystems indicative of slightly disturbed tropical Australian upland river ecosystems.

⁴ Reference sites are defined in Table C5.

⁵ 20th, 80th and 95th percentiles are calculated using ANZECC 2000 methodology (section 7.4.4.1).

⁶ The median and 95th percentile must be determined on the most recent three (3) consecutive routine monitoring samples. Comparison against trigger and contaminant limits should be made to maximum test values collected during discharge and flow events.

⁷ The median limit type is used if the 80th percentile trigger level is used, or if the default trigger level is used when there are <24 reference site values used to calculate the 80th percentile. The 95th percentile limit type is used if the default trigger level is used when there are 24 reference site values used to calculate the 80th percentile.

⁸ Interim (low reliability) value from ANZECC 2000 section 8.3.7.1.

⁹ If arsenic (soluble) exceeds 13 µg/L then speciation to As(III) and As(V) must be conducted. The As(III) and As(V) levels must not exceed the 80th percentile of reference site samples⁴ or the respective default trigger level: As(III) – 24 µg/L; As(V) – 13 µg/L.

¹⁰ Trigger values – from historical data provided by Legend International Holdings Inc. - Water Studies (2000) extract and Lawlor Quarry Camp water analysis (Amdel, 2009).

Note: Analysis for total metal and / or dissolved concentrations.

- C9 If groundwaters from compliance bores identified in Table C5 (Groundwater monitoring locations and frequency) exceed any of the trigger levels stated in Table C6 (Groundwater trigger levels), the environmental authority holder must:
- (a) complete an investigation in accordance with the ANZECC 2000 methodology, into the potential for environmental harm;
 - (b) provide a written report to the administering authority within 3 months of the date of the original exceedence, specifying:
 - (i) details of the investigations carried out; and
 - (ii) actions taken to prevent environmental harm.
- C10 Groundwaters from bores identified in Table C5 (Groundwater monitoring locations and frequency), must not exceed any of the limits defined in Table C7 (Groundwater contaminant limits).

Table C7 (Groundwater contaminant limits)

Parameter	Unit	Test Value	Contaminant Limit
pH	pH unit	Range	Lower limit 5.0 ⁴ Upper limit 9.0 ⁴
EC	µS/cm	Maximum	5970 ¹
Sulphate	mg/L	Maximum	1000 ¹
Fluoride	mg/L	Maximum	2 ¹
Arsenic	mg/L	Maximum	0.5 ¹
Cadmium	mg/L	Maximum	0.002 ³
Copper	mg/L	Maximum	1 ¹
Lead	mg/L	Maximum	0.01 ¹
Nickel	mg/L	Maximum	0.2 ³
Silver	mg/L	Maximum	0.1 ³
Zinc	mg/L	Maximum	3 ³
Level	m	N/A measured for interpretation purpose only	

¹ Contaminant limit based on ANZECC 2000 stock water quality guidelines.

² Limit levels based on background data are to be based on 24 consecutive samples (18 at a minimum) taken prior to the construction phase of the project.

³ Contaminant limit based on NHMRC Australian Drinking Water Guidelines

⁴ Page 4.2-15 of ANZECC 2000 "Soil and animal health will not generally be affected by water with pH in the range of 4–9".

Note: Analysis for total metal concentrations

Note: Level parameter not for compliance purposes

- C11 Groundwater monitoring bores must be constructed and operated in accordance with methods prescribed in the latest edition of the Agriculture and Resource Management Council of Australia and New Zealand manual titled *Minimum Construction Requirements for Water Bores in Australia*.
- C12 Annual groundwater monitoring reports analysing groundwater chemistry and hydro-geological status of all groundwater bores and groundwater conditions are to be prepared and submitted to the administering authority by 1 November each year.

Water monitoring

- C13 All determinations of water quality must be:
- (a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;
 - (b) made in accordance with methods prescribed in the latest edition of the Water Quality

Sampling Manual issued by the administering authority;

- (c) collected from the monitoring locations nominated in this environmental authority; and
- (d) carried out on representative samples.

Receiving environment sediment monitoring program

C14 Sediment quality of receiving waters and reference waters must be monitored twice a year (once at the end of the wet season and once at the end of the dry season) at the monitoring location defined in Table C1 (Receiving water monitoring locations) and Schedule H - Map C1 and for the parameters defined in Table C5 (stream sediment trigger levels).

Table C8 (Stream sediment trigger levels)

Parameter	Unit	Trigger Level	Level type
Sulphate ⁸	mg/kg	80 percentile · of reference ³ or reference ³ + 10%	Median ^{6,7}
Fluoride	mg/kg	80 percentile · of reference ³ or reference ³ + 10%	Median·
Arsenic	mg/kg	80 percentile · of reference ³ or 204, whichever is higher.	Median · or 95 percentile ^{4,5,6}
Cadmium	mg/kg	80 percentile · of reference ³ or 1.5 ⁴ , whichever is higher.	Median ^{5,6} or 95 ^{tr} percentile ^{4,5,6}
Copper	mg/kg	80 percentile · of reference ³ or 65 ⁴ , whichever is higher.	Median ^{5,6} or 95 ^{tr} percentile ^{4,5,6}
Lead	mg/kg	80 percentile · of reference ³ or 50 ⁴ , whichever is higher.	Median ^{5,6} or 95 ^{tr} percentile ^{4,5,6}
Nickel	mg/kg	80 percentile · of reference ³ or 21 ⁴ , whichever is higher.	Median · or 95 percentile ^{4,5,6}

Parameter	Unit	Trigger Level	Level type
Silver	mg/kg	80 percentile of reference ³ or 1.0 ⁴ , whichever is higher	Median ^{5,6} or 95 th percentile ^{4,5,6}
Zinc	mg/kg	80 percentile of reference ³ or 2004, whichever is higher.	Median or 95 percentile ^{4,5,6}

¹For toxicants, trigger values are based on the 80 percentile of at least 10 and no more than 24 consecutive reference site samples¹, derived using the DERM (2006) methodology (Table D1, and section 3.4.3.1).

² An Interim trigger limit can be derived from 8 but,::: 17 consecutive reference site samples, derived using DERM (2006) methodology (section 3.4.3.1).

³ Reference sites are defined in Table C1.

⁴ ANZECC 2000 Interim Sediment Quality Guidelines - low values based on total sediments

⁵ 20th 80th and 95th percentiles are calculated using ANZECC 2000 methodology {section 7.4.4.1}.

⁶ The median and 95th percentile must be determined on the most recent three (3) consecutive routine monitoring samples.

⁷ The median limit type is used if the 80th percentile trigger level is used, or if the default trigger level is used when there are <24 reference site values used to calculate the 80th percentile. The 95th percentile limit type is used if the default trigger level is used when there are 24 reference site values used to calculate the 80th percentile.

⁸ An interim trigger limit can be derived from reference+ 10% for Sulphate and Fluoride until a minimum of 8 consecutive reference site samples attained. The 80th percentile of reference trigger level must be used once 8 consecutive samples have been attained.

C15 If the bed of the receiving waters exceed any of the stream sediment trigger levels defined in Table C8, the environmental authority holder must:

- (a) complete an investigation in accordance with the ANZECC 2000 methodology, into the potential for environmental harm;
- (b) provide a written report to the administering authority within 3 months of the date of the original exceedence, specifying:
 - (i) details of the investigations carried out; and
 - (ii) actions taken to prevent environmental harm.

Note: a period of greater than 3 months may be approved if authorised by the administering authority

C16 Stream sediment contaminant limits must not exceed the contaminant limits defined in Table C9 (Receiving stream sediment contaminant limits)..

Table C9 (Receiving stream sediment contaminant limits)

Parameter	Unit	Contaminant Limit	Test Value
Sulphate	mg/kg	twice the reference value ²	Maximum
Fluoride	mg/kg	twice the reference value	Maximum
Arsenic	mg/kg	70 or twice the reference value , whichever is higher	Maximum
Cadmium	mg/kg	10 or twice the reference value , whichever is higher	Maximum
Copper	mg/kg	270 or twice the reference value , whichever is higher	Maximum

Lead	mg/kg	220' or twice the reference value', whichever is higher	Maximum
Nickel	mg/kg	52' or twice the reference value", whichever is higher.	Maximum
Silver	mg/kg	3.7' or twice the reference value'	Maximum
Zinc	mg/kg	410' or twice the reference value\ whichever is higher.	Maximum

¹ ANZECC 2000 Interim Sediment Quality Guidelines - high values based on total sediments

² Reference sites are defined in Schedule C-Table C1. Toxicants reference value is based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples⁴ derived using the DERM (2006) methodology (Table 01, and section 3.4.3.1).

- C17 All stream sediment sampling must be undertaken in accordance with AS 5667.12 Guidance on Sampling of Bottom Sediments of 1998.

Water Management Plan

- C18 . A water management plan must be developed and implemented for the activities carried out at the licensed place which has been certified by a professional with appropriate experience and / or qualifications accepted by the administering authority and be included in the Plan of Operations.
- C19 The holder of this environmental authority must carry out the licensed activity in accordance with the water management plan which provides for at least the following stormwater management functions:
- (a) Uncontaminated stormwater run-off is diverted around disturbed areas and areas where contaminants or wastes are stored or handled;
 - (b) stormwater from disturbed areas is diverted and captured in the mine water management structures;
 - (c) carrying out of preventative maintenance of the water management structures including servicing of pumps and associated pumping infrastructure, integrity testing and de-silting of sediment dams;
 - (d) carrying out of regular visual inspection of water management structures including potential releases to the environment;
 - (e) minimisation of the disturbed areas;
 - (f) use of alternative materials and/ or processes (such as dry absorbents) for the clean up of spills that will minimise the generation of contaminated stormwater;
 - (g) contingency planning for failure of the water management system; and
 - (h) the inclusion of maps and plans identifying stormwater flows.

- C20 Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment and contamination of storm water.
- C21 The maintenance and cleaning of vehicles and any other equipment or plant must not be carried out in areas from which contaminants can be released into any waters, roadside gutter or receiving environment.
- C22 Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable. Such spillages must be cleaned up using dry methods that minimise the release of wastes, contaminants or materials to any stormwater drainage system, roadside gutter or waters.

END OF CONDITIONS FOR SCHEDULE C

Schedule D - Noise

- D1 Noise from the mining activity must not cause environmental harm at any sensitive place or commercial place.
- D2 In the event of a complaint about noise from the mining activities, the noise from the mining activities must not exceed the noise limits stated in Table D1 (Noise limits).

Table D1 (Noise limits)

Sensitive place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	9pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
LA90,adj,15mins	Lesser of big+ 3 or 48	Lesser of big+ 0 or 40	Lesser of big+ 0 or 40	Lesser of big+ 0 or 40	Lesser of big+ 0 or 40	Lesser of big+ 0 or 40
LA90,adj,15mins	Lesser of big+ 5 or 50	Lesser of big+ 5 or 45	Lesser of big+ 5 or 40	Lesser of big+ 5 or 45	Lesser of big+ 5 or 40	Lesser of big+ 5 or 35
LA.90,adj,15mins	Lesser of big+ 10 or 55	Lesser of big+ 10 or 50	Lesser of big+ 5 or 45	Lesser of big+ 10 or 50	Lesser of big+ 10 or 45	Lesser of big+ 5 or 40
Commercial place						
Noise level dB(A) measured as:	Monday to Saturday			Sundays and public holidays		
	7am to 6pm	9pm to 10pm	10pm to 7am	9am to 6pm	6pm to 10pm	10pm to 9am
LA90,adj,15mins	Lesser of big+ 5 or 50	Lesser of big+ 0 or 45	Lesser of big + 0 or 40	Lesser of big+ 3 or 43	Lesser of big+ 0 or 40	Lesser of big+ 0 or 40
LA90,adj,15mins	Lesser of big+ 10 or 55	Lesser of big+ 10 or 50	Lesser of big + 5 or 45	Lesser of big+ 10 or 50	Lesser of big+ 10 or 45	Lesser of big+ 5 or 40
LA90,adj,15mins	Lesser of big+ 15 or 60	Lesser of big+ 15 or 55	Lesser of big +10 or 50	Lesser of big+ 15 or 55	Lesser of big+ 15 or 50	Lesser of big+ 10 or 45

1. *big* - background noise level

In the event that measured *b/g* is less than 25 dB(A), then 25 dB(A) can be submitted for the measured level.

- D3 When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

- D4 Noise monitoring and recording must include the following descriptors, characteristics and matters:
- (a) LAN,T (where N equals the statistical levels of 1, 10 and 90 and T = 15 minutes);
 - (b) Background Noise $L_{A90,T}$
 - (c) The level and frequency of occurrence of impulsive or tonal and any adjustment penalties to statistical levels;
 - (d) Atmospheric conditions including temperature, relative humidity and wind speed and directions;
 - (e) Effects due to any extraneous factors such as traffic noise;
 - (f) Location, date and time of monitoring;
 - (g) If the complaint concerns low frequency noise, Max Sp_{int} and
 - (h) If the complaint concerns low frequency noise, one third octave band measurements in dB(LIN) for centre frequencies in the 10- 200 Hz range.
- D5 If monitoring indicates the limits in condition D2 have been exceeded, the environmental authority holder must undertake an investigation to identify the cause of the exceedence. If the exceedence is found to be attributable to the licensed activity, the environmental authority holder must implement abatement measures so that emissions of noise generated by the mining activities do not exceed limits listed in condition D2.
- D6 The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's noise measurement manual.

END OF CONDITIONS FOR SCHEDULE D

Schedule E - Waste

Waste management plan

- E1 A waste management program in accordance with Part 5 of the *Environmental Protection (Waste Management) Policy 2000* must be developed, implemented and maintained for the site. The waste management program must include:
- (a) a description of the mining activities that may generate waste;
 - (b) the types and amounts of wastes generated by the mining activities;
 - (c) a program for reusing, recycling or disposing of all wastes;
 - (d) how the waste will be dealt with in accordance with the waste 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);
 - (e) 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;
 - (f) procedures for dealing with accidents, spills, and other incidents that may impact on the waste management;
 - (g) details of any accredited management system employed, or planned to be employed, to deal with the waste;
 - (h) how often the performance of the waste management practices will be assessed;
 - (i) the indicators or other criteria on which the performance of the waste management practices will be assessed;
 - (j) staff training and induction to the waste management plan.

Waste disposal facility

- E2 The only waste (other than waste rock) that is authorised to be disposed of at the site is putrescibles and domestic waste generated by the mining activities.
- E3 The wastes identified in condition E2 must only be disposed of in the waste disposal trench on mining lease 90190 and identified in Schedule H - Map E2.
- E4 Putrescibles and domestic wastes deposited in the waste disposal trench must be consolidated, compacted and covered with a layer of inert material following placement of waste in the trench.
- E5 Litter control methods must be implemented at the waste disposal trench to ensure wind blown litter is not released from the waste disposal trench.
- E6 The waste disposal trench must be constructed and operated to ensure leachate is not generated including a system of diversion drains or embankments to divert stormwater away from any area where contact with wastes or contaminants may occur.
- E7 Completed waste disposal trenches must be capped with a low permeability material and compacted and contoured to effectively minimise water infiltration.

E8 A record of the location of trenches used for waste disposal must be maintained.

E9 Waste must not be burnt.

Regulated waste

E10 Regulated waste must be removed and transported from the site by a person who holds a current approval to transport such wastes to a facility that is lawfully able to accept waste under the *Environmental Protection Act 1994*.

E11 Regulated waste may be temporarily stored on site awaiting removal.

E12 Each container of regulated waste stored awaiting movement off site must be clearly marked to identify the contents.

E13 The regulated waste storage area must be designed so that there is more than one vehicular access point and that fire fighting equipment and resources are accessible no matter what the wind direction.

E14 Tyres stored awaiting disposal or transport for take-back and recycling or waste-to-energy options must be stockpiled in stable stacks in volumes less than 500 equivalent passenger-tyre units (EPU), less than 3m in height and 200 sq m in area and at least 10m from any other tyre storage area or combustible or flammable material, including vegetation.

E15 All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other flammable materials within a 10m radius of any tyre storage area.

E16 Where regulated waste is removed from the licensed place the holder of this environmental authority must ensure that:

- (a) the removal and transport of such wastes, where it constitutes an environmentally relevant activity under the *Environmental Protection Regulation 1998*, is carried out by a person licensed for carrying out this activity to a facility that is lawfully able to accept the waste under the *Environmental Protection Act 1994*; and
- (b) records are kept of the following:
 - (i) the date, quantity and type of waste removed; and
 - (ii) name of the regulated waste transporters that removed the waste; and
 - (iii) the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the *Environmental Protection Act 1994* or any other law for regulated waste will be deemed to satisfy this environmental authority condition.

E17 If the holder of this environmental authority becomes aware that a person has removed regulated waste from the licensed place and disposed of the regulated waste in a manner which is not authorised by this environmental authority or improper or unlawful, then the holder of this

environmental authority must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

END OF CONDITIONS FOR SCHEDULE E

Schedule F - Land and Rehabilitation

- F1 Land disturbed by mining activities must be rehabilitated in accordance with Table F1 - Rehabilitation requirements and the objectives of the Post Mine Land Use Plan required under condition F8.

Table F1 (Rehabilitation requirements)

Land Unit	Tenure ID	Surface Area (Ha)	Rehabilitation Objectives		
			Post-mine Land use / Description	Post-mine Land Classification	Analogue Site Identification
Spoil Areas ¹	MLA 90190	28.5	Grazing	4	Sites to be rehabilitated to a standard nominated in the post mine land use plan developed in accordance with Condition F8 and based on analogue sites selected in accordance with Condition F7
Void and Ramps ²	MLA 90190	2.3	Void	5	
Access Road	MLA 90190	46.4	Road	5	
Infrastructure	MLA 90190	5.0	Grazing	4	

¹ Spoil Areas are defined as mine stages 1 to 8 as shown in Schedule H - Map E2

² Void and Ramps are defined as mine stage 9 as shown in Schedule H - Map E2

- F2 All land subject to mining activities must be rehabilitated to a nonpolluting, stable and self sustaining landform.
- F3 Areas that are available for rehabilitation must be identified in the current Plan of Operations.
- F4 Rehabilitation must commence progressively as areas become available and in accordance with the Plan of Operations.
- F5 Topsoil and subsoils must be stripped separately and stockpiled ahead of mining and used in rehabilitation.
- F6 Mining activities must not result in a non-beneficial post-mine land use capability of more than 25 hectares.
- F7 Rehabilitation will be assessed against analogue site(s) to be agreed upon with the administering authority and where possible will include species from *Eucalyptus camaldulensis*, *Eucalyptus leucophloia* and *Eucalyptus pruinosa* communities.

Post Mine Land Use Plan

- F8 The Post Mine Land Use Plan must be included in the Plan of Operations and updated with each subsequent Plan of Operations, describing how the rehabilitation objectives will be achieved. The Post Mine Land Use Plan must include:
- (a) Description of anticipated outcomes for mined areas including:
 - (i) Post mine land use;

- (ii) Land use constraints which have resulted from mining activities;
 - (iii) Closure criteria;
 - (iv) Measurable completion criteria for each rehabilitation indicator (for each land unit) that enables determination of rehabilitation success for each disturbance type (or land unit);
 - (v) Pollution risks and mitigation measures.
- (b) Description of anticipated achievement of outcomes for mined areas including:
- (i) Landform design principles to achieve stable landforms including slope designs, erosion controls and drainage designs;
 - (ii) Schematic representations of final land form inclusive of drainage features; and
 - (iii) Integrated landscape features compatible with existing landforms and undisturbed native vegetation;
 - (iv) Proposed revegetation methods including plant species selection, re-profiling, soil, soil ameliorants, surface preparation and method of propagation; and
 - (v) Post rehabilitation maintenance needs.
- (c) Description of remaining features for mined areas; and
- (d) A rehabilitation monitoring program.

Post Closure Management Plan

- F9 A post closure management plan for the site must be developed and implemented for a nominal period of:
- (a) at least thirty (30) years following final ore processing on-site; or
 - (b) a shorter period if the site is proven to be geotechnically and geochemically stable and it can be demonstrated to the satisfaction of the administering authority that no release of contaminants for the site will result in environmental harm.
- F10 The Post Closure Management Plan must include the following elements:
- (a) operation and maintenance of:
 - (i) wastewater collection and reticulation systems;
 - (ii) wastewater treatment systems;
 - (iii) the groundwater monitoring network;
 - (iv) final cover systems; and
 - (v) vegetative cover.
 - (b) monitoring of:
 - (i) surface water quality;
 - (ii) groundwater quality;
 - (iii) seepage rates;
 - (iv) erosion rates;
 - (v) the integrity and effectiveness of final cover systems; and
 - (vi) the health and resilience of vegetative cover.

Rehabilitation Monitoring Program

- F11 The holder of the environmental authority must conduct a Rehabilitation Monitoring Program on at least a yearly basis, which must include sufficient spatial and temporal replication to enable scientifically justifiable conclusions as established under the rehabilitation program or other methodology to the satisfaction of the administering authority.
- F12 The rehabilitation monitoring program must be included in the Plan of Operations and be implemented by a person nominated by the environmental authority holder possessing appropriate qualifications and experience in the field of mine site rehabilitation.
- F13 Verification of rehabilitation success is to be carried out as follows:
- (a) for each domain; and
 - (b) monitoring must be carried out for each domain at a minimum sampling intensity of 1:15,000.
 - (c) monitoring must include sufficient replication to enable statistical analysis of results at an acceptable power.

Infrastructure

- F14 All infrastructure, mining equipment and plant erected and/or used for the mining activities, including water storage structures, must be removed from the licensed place prior to surrender, except where agreed in writing by the administering authority, landowner and the Minister administering the *Mineral Resources Act 1989*.

Contaminated Land

- F15 Upon decommissioning the environmental authority holder must undertake a contaminated land assessment / investigation of the licensed place in accordance with the administering authority's Guidelines for the Assessment & Management of Contaminated Land in Queensland.

Residual Void Outcome

- F16 Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself, and subject to any other condition within this environmental authority.
- F17 Decommissioning strategies for the final voids must be provided in the Plan of Operations including the following information:
- (a) management options for maximising final void water quality; and
 - (b) assessment of potential final void water quality.
- F18 Decommissioning strategies for the final voids must be updated with each update of the Plan of Operations.

Schedule G - Definitions

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

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete (same as completion criteria).

"ambient (or total) 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 2000" means the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines, 2000.

"appropriately qualified person" means any person possessing the qualifications and experience relevant to the activity being undertaken and deemed acceptable by the administering authority and acceptance will not unreasonably withheld.

"ARD" means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.

"authority" means environmental authority (mining activities) under the Environmental Protection Act 1994.

"commercial place" means a place used as an office or for business or commercial purposes, other than a place within the boundaries of the operational land.

"environmental authority holder" means the holder of this environmental authority.

"LA_{0,r}" is the A-weighted sound pressure level exceeded 90% of the sample duration T.

"land" in the 'land schedule' of this document means land excluding waters and the atmosphere "noise sensitive place" or a "commercial place"

"land capability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland "noise sensitive place" or a "commercial place"

"land suitability" as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

"land use" term to describe 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.

"NAF" means non acid forming waste rock.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"non-beneficial land use" means land classed as unsuitable land with extreme limitations that preclude its use.

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

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"PAF" means potentially acid forming waste rock.

"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 (mms)

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively OR a staged approach to rehabilitation as mining operations are ongoing.

"receiving environment" means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

"receiving waters" means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"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.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means:

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- an educational institution; or
- a medical centre or hospital; or
- a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area; or
- a public park or gardens; or
- a place used as a workplace, 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.

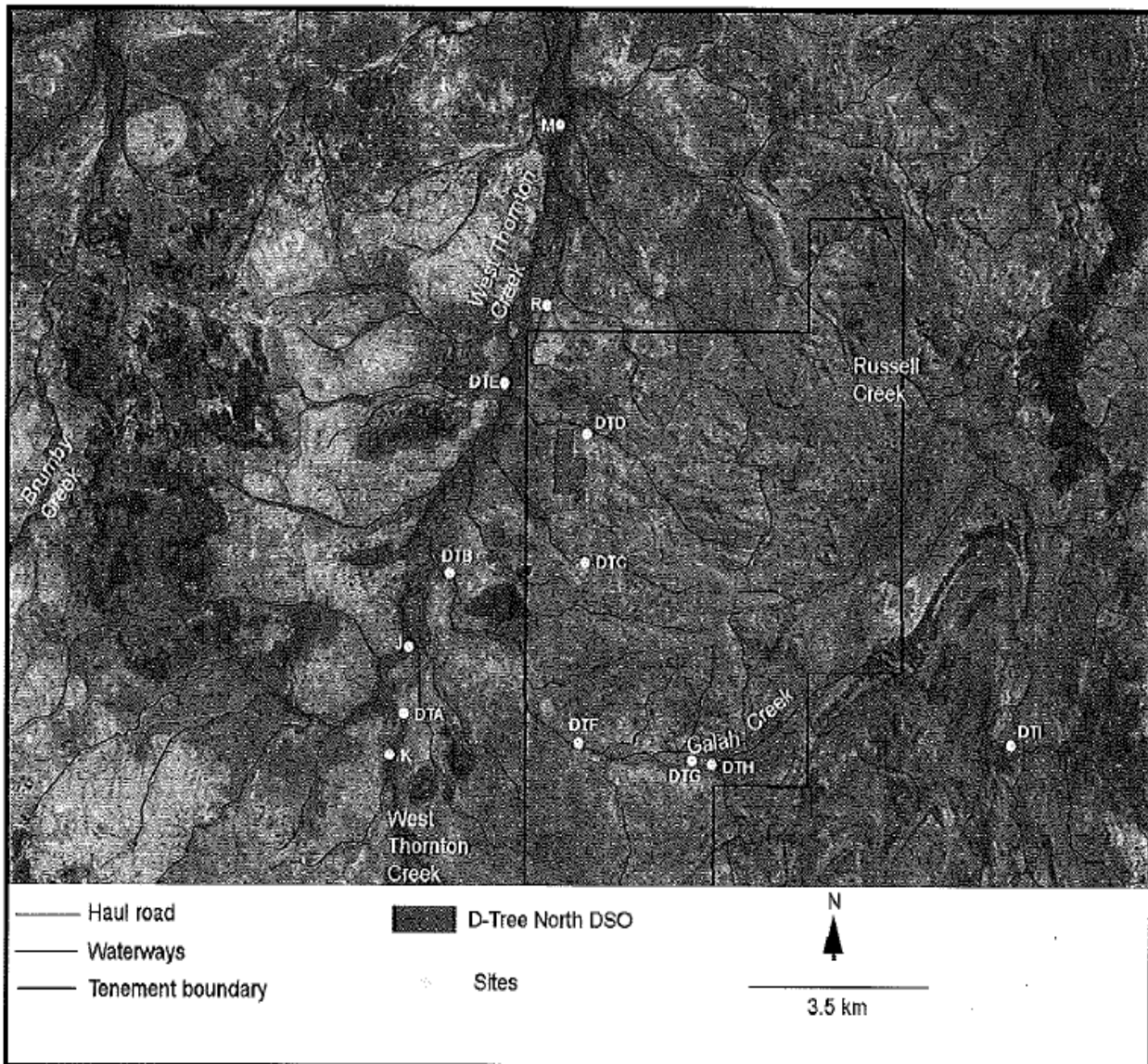
"stable" means geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation/ settlement of the wastes deposited and sliding/ slumping instability has ceased.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), and any under groundwater, any part thereof "licensed vehicle"

END OF SCHEDULE G

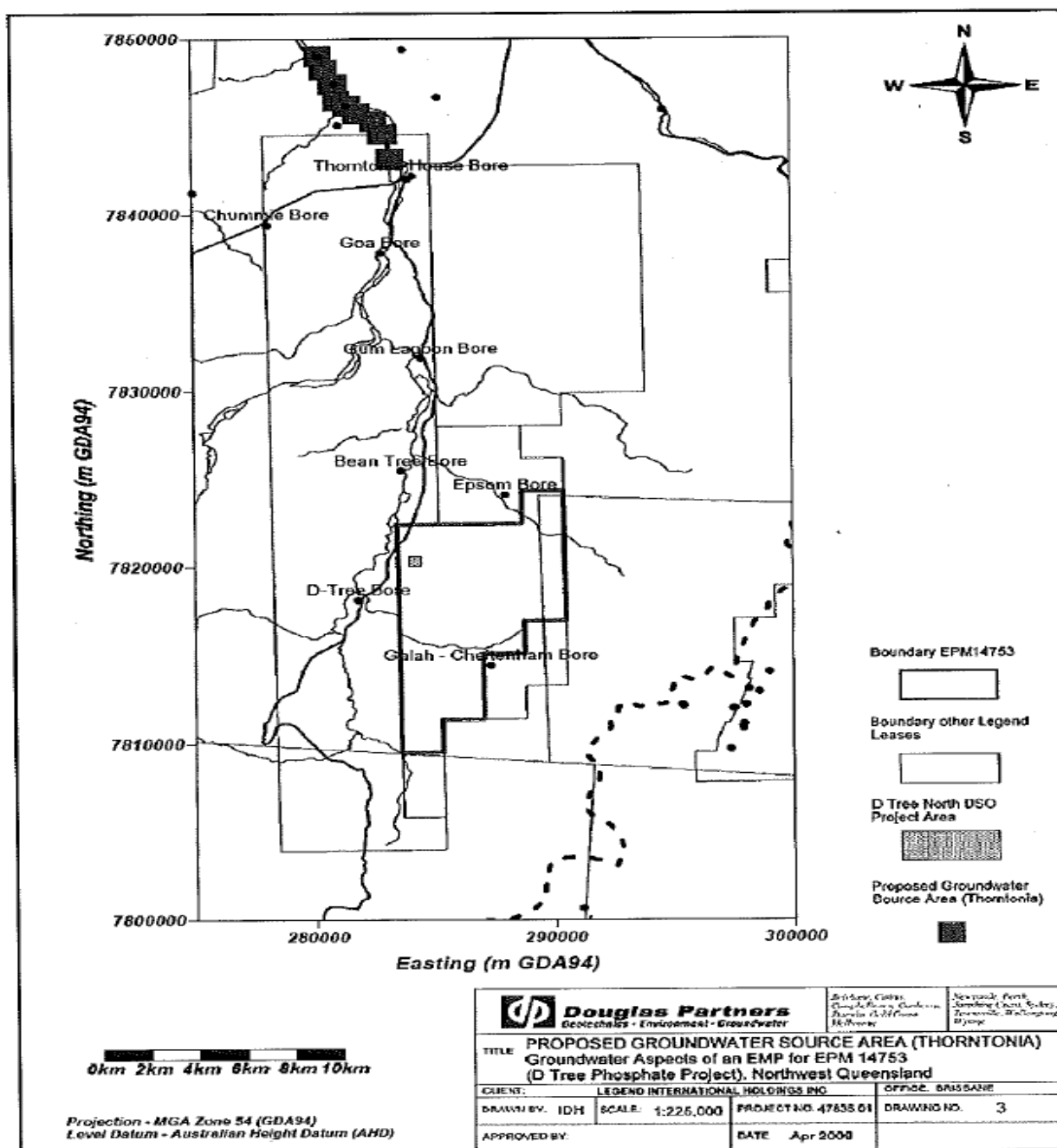
Schedule H - Maps

Map C1 - Receiving water and stream sediment monitoring locations

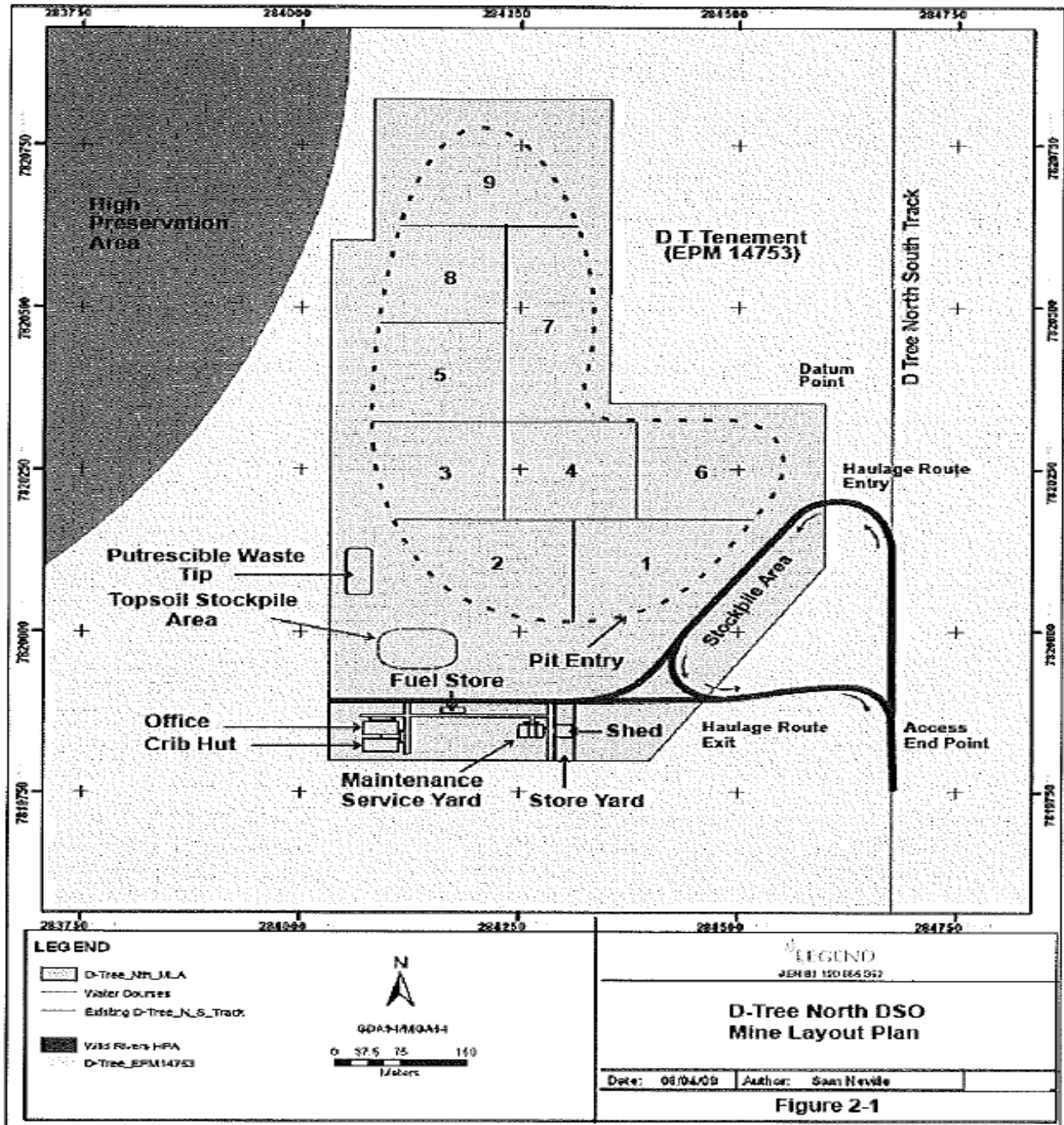


Supplied by Legend International Inc. via email dated 12/10/09

Map C2 - Groundwater bore locations



Map E2 - Mine Layout



END OF SCHEDULE H