Permit

Environmental Protection Act 1994

Environmental authority EPML00863713

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

Environmental authority number: EPML00863713

Environmental authority takes effect on 2 December 2021

The anniversary date of this environmental authority is 8 September each year.

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

Environmental authority holder(s)

Name(s)	Registered address
Newmont Landco Pty Ltd	Level 2 388 Hay Street SUBIACO WA 6008

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 16: Mining gold ore	ML1546, ML10173, ML10148, ML10144, ML10172
Ancillary 54 - Mechanical waste reprocessing 2: Operating a facility for receiving and mechanically reprocessing, in a year, the following quantity of general waste- (c) more than 10,000t	ML1546, ML10173, ML10148, ML10144, ML10172
Ancillary 33 - Crushing, milling, grinding or screening Crushing, grinding, milling or screening more than 5000t of material in a year	ML10144
Ancillary 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ML10144

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).

Contaminated land

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

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

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

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

Take effect

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

a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority – on the nominated day; or

b) if the authority states a day or an event for it to take effect – on the stated day or when the stated event happens; or

c) otherwise – on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect. An annual return will be due each year on 01 April.

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

Tibbs	2 December 2021
Signature	Date

Teale Gibbs
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

Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Conditions of environmental authority

Schedule A - General

Activity

(A1-1) In carrying out the mining activity the holder must comply with Schedule A -Table 1 (Authorised Mining Activities)

Schedule A - Table 1 (Authorised Mining Activities)

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Easting (GDA94)	Northing (GDA94)
Dams	Raw Water Dam	ML10144	10.9	424475	7757248
				424839	7757218
				424558	7756704
				424745	7756830
				424689	7757318
	Upper Plum Tree Creek Dam	ML10144	0.5	422728	7756911
				422790	7756912
				422787	7756847
				422721	7756824
	Plum Tree Creek Dam	ML10144	1.3	422765	7757121
				422893	7757048
				422728	7756911
	Mt Hope Dam	ML10144	1.8	424410	7754488
				424627	7754488
				424712	7754631
				424397	7754670
	Mt Hope Extension Dam	ML10144	0.2	425233	7754585
				425387	7754596
				425220	7754664
				425354	7754653
	Supergene Dam	ML10144	0.7	422979	7755890
				422914	7755717
				422987	7755671

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Easting (GDA94)	Northing (GDA94)
				423072	7755817
	Mt Mawe Dam	ML10144	1.3	425603	7755549
				425734	7755569
				425727	7755651
				425584	7755738
	Settlement Dam	ML10144	3.9	422823	7754856
				422974	7754711
				423079	7754825
				422925	7754961
				423082	7754997
	Southern Tailings Storage Facility	ML10144	62.0	424338	7754207
				424271	7754875
				423559	7754721
				423865	7754744
				423976	7753934
				423529	7753892
	New Northern Tailings Storage Facility	ML10144	102.3	423572	7758565
				424330	7757740
				423517	7757515
				424153	7758439
				423085	7757294
				423002	7758018
	Old Northern Tailings Storage Facility	ML10144	52.7	424452	7757086
				424500	7756827
				424002	7757314
				423633	7756749
				424168	7756743
				423217	7756722
				423477	7757353
				423170	7757027

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Easting (GDA94)	Northing (GDA94)
Waste	Northern Waste Rock Dump	ML10144	34.3	423739	7756697
				423571	7756237
				423300	7756118
				423053	7756313
				423086	7756596
				423347	7756780
	Eastern Waste Rock Dump	ML10144, ML10172, ML10173	179.8	424866	7756410
				425428	7754684
				425700	7755044
				424320	7754712
				424360	7755595
				424818	7755869
				425471	7756158
	Southern Waste Rock Dump	ML10144	22.0	423865	7755176
				424237	7755172
				424265	7754881
				423856	7754743
				423420	7754984
	Scats Stockpile	ML10144	21.2	422882	7756979
				422707	7756805
				422749	7756224
				422934	7756075
				423023	7756609
Void	Pit	ML10144	70.4	Refer to Schedule J, Figure 2: Void Extent	
Run of Mine (ROM)	Decommissioned and Reclaimed Water Treatment Pond	ML10144	4.5	424497	7756811
				424542	7756562
				424423	7756463

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Easting (GDA94)	Northing (GDA94)
				424204	7756738
Processing area	Heap Leach Stockpile	ML10144	10.0	422975	7755657
				423144	7755858
				423388	7755517
				423228	7755365
				423059	7755450
	Low Grade Stockpile	ML10144	10.0	423909	7755431
				423823	7755242
				423619	7755358
				423662	7755785
	NAF Oxide Stockpile	ML10144	7.8	424572	7757690
				424322	7757686
				424299	7757954
				424588	7757931
	PAF Oxide Stockpile	ML10144	3.5	423981	7757598
				424285	7757688
				424202	7757731
				424087	7757524
Quarry	Quarry	ML10144	3.26	424222	7758653
				424190	7758869
				424215	7759475
				424280	7759520
				424575	7759146
				424610	7759471
				424807	7759592
				424805	7759375
				424967	7759343
				425021	7759122
				424945	7758968
Borrow Pit	Northern Borrow Pit	ML10144	40.15	422725	7757160

Mine Domain	Mine Feature	Tenure	Maximum Area of Disturbance (ha)	Easting (GDA94)	Northing (GDA94)
				422752	7757157
				422755	7757061
				422716	7756840
				422691	7756759
				422635	7756685
				422600	7756706
				422570	7756781
				422582	7756847
				422659	7756888
Ancillary Infrastructure	Reclaimed Workshop Area	ML10144	0.5	423396	7755597
				423509	7755659
				423484	7755685
				423371	7755631
	Office	ML10144	0.3	423485	7755636
				423516	7755568
				423544	7755613
				423521	7755653
	Fuel storage	ML10144	0.02	423570	7755592
				423558	7755588
				423565	7755570
				423575	7755575
	Roads & Tracks	ML10144	20.0	Not feasible	Not feasible

Financial Assurance

(A2-1) Prior to the commencement of mining activities under this environmental authority, provide a financial assurance of an amount and in a form determined by the administering authority in accordance with the latest version of administering authority's guideline for calculating financial assurance.

(A2-2) The amount of financial assurance required may be reviewed by the administering authority at any time.

(A2-3) Financial assurance must be lodged with the appropriate Queensland Government department

within ten (10) business days following any decision made by the administering authority that increases financial assurance for the environmental authority holder.

Maintenance of Measures, Plant and Equipment

(A3-1) The holder must:

(a) Install all measures, plant, and equipment necessary to ensure compliance with the conditions of this environmental authority; and

(b) Maintain such measures, plant, and equipment in a proper condition; and

(c) Operate such measures, plant, and equipment in a proper manner.

(A3-2) 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.

(A3-3) 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.

Monitoring and measurements

(A4-1) Record, compile and keep for a minimum of five (5) years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.

(A4-2) The holder of this environmental authority must upon request from the administering authority, supply monitoring records, plans and reports in the form and by the means requested by the administering authority within five (5) business days.

(A4-3) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

(A4-4) All analyses, and tests required to be conducted under this environmental authority must be carried out by a laboratory that has NATA accreditation for such analyses and tests, except as otherwise authorised by the administering authority.

Emergency response / contingency

(A5-1) An emergency response/contingency plan must be developed by the 30 September 2013, be contained within the current plan of operations, and implemented to respond to emergency events and incidents.

(A5-2) The emergency response/contingency plan required under condition A5-1 must address the following matters as a minimum:

(a) response procedures to be implemented to prevent or minimise the risk of environmental harm arising from incidents.

(b) response procedures to minimise the extent and duration of environmental harm caused by an incident.

(c) the practices and procedures to be employed to rehabilitate the environment or mitigate any environmental harm caused.

(d) the resources to be used in response to an incident.

(e) procedures to investigate the cause of any incidents, including releases, and where necessary, implement remedial actions to reduce the likelihood of recurrence of similar events.

(f) the provision and availability of documented procedures to staff attending any incident to enable them to effectively respond; and

(g) training of staff that will be called upon to respond to incidents to enable them to effectively and safely respond.

(h) timely and accurate reporting of the circumstance and nature of incidents to the administering authority in accordance with conditions A6-1 to A6-3.

(i) procedures for accessing monitoring points during incidents.

(j) procedures to notify any person who may be affected by the event within 24 hours, with information to be provided at a minimum:

1. the location of the release.
2. the date and time of the release.
3. the estimated quantity and type of any substances (if available concentrations) involved in the incident.
4. the potential impacts to environmental values caused by the release.

Notification of Emergencies, Incidents and Exceedance

(A6-1) The authority holder must notify the administering authority either by phone and email or fax as soon as possible (no later than 24 hours) after becoming aware of:

(a) 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; or

(b) any monitoring result that indicates an exceedance of any environmental authority limit.

(A6-2) The notification in condition (A6-1) must include, but not be limited to, the following:

(a) the environmental authority number and name of the holder.

(b) the name and telephone number of the designated contact person.

(c) the location of the emergency, incident, or exception

(d) the date and time of the emergency, incident, or exception.

(e) the time the holder of the environmental authority became aware of the emergency, incident, or exception.

(f) the estimated quantity and type of substances involved in the emergency, incident, or exception.

(g) the actual or potential cause of the emergency, incident, or exception.

(h) a description of the nature and effects of the emergency, incident, or exception, including environmental risks, any risks to public health or livestock

(i) immediate actions taken to prevent or mitigate any further environmental harm caused by the release.

(j) what notification of persons who may be affected by the event has occurred/is being undertaken.

(A6-3) Within twenty-eight (28) 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 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.

Risk Management

(A7-1) The environmental authority holder must develop and implement a risk management system for mining activities which conforms to the Standard for Risk Management (ISO31000:2009) or the latest edition of the Australian Standard for Risk Management by 28 February 2014.

Third Party Auditing

(A8-1) Compliance with the conditions of this environmental authority must be audited by an appropriately qualified third-party auditor, nominated by the environmental authority holder, and accepted by the administering authority, before the 28 February 2014, and then at regular intervals not exceeding once every two (2) years.

(A8-2) Upon receipt of the third-party audit report, the environmental authority holder must submit a copy to the administering authority.

(A8-3) The third-party auditor must certify the independent findings of the audit in the report.

(A8-4) The financial cost of the third-party audit is the responsibility of the holder of this environmental authority.

(A8-5) The holder of this environmental authority must immediately act upon any recommendations arising from the audit report by:

(a) investigating any non-compliance issues identified; and

(b) implementing measures or taking necessary action to ensure compliance with the requirements of this environmental authority.

(A8-6) Subject to condition (A8-5), and not more than one (1) months following the submission of the audit report to the administering authority, the holder of this environmental authority must provide a written report to the administering authority addressing the:

(a) actions taken by the holder to ensure compliance with this environmental authority; and

(b) actions taken to prevent a recurrence of any non-compliance issues identified.

END OF CONDITIONS FOR SCHEDULE A

Schedule B – Air

Dust nuisance

(B1-1) Subject to Conditions (B1-2) and (B1-3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive place.

(B1-2) 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.

(B1-3) If the environmental authority holder can provide evidence through monitoring that the following limits are not being exceeded then the holder is not in breach of (B1-1):

(a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and

(b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24-hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with:

- Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990; or

- Any alternative method of sampling PM10, which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority.

NOTE: You must propose which monitoring method is appropriate in accordance with condition (B1-3) (a) or (b) or both.

(B1-4) If monitoring indicates exceedance of the relevant limits in Condition (B1-3), then the environmental authority holder must:

(a) Address the complaint including the use of appropriate dispute resolution if required; or

(b) Immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

General

(C1-1) Contaminants that will, or have the potential to cause environmental harm, must not be released directly or indirectly to any waters except as permitted under the conditions of this environmental authority.

(C1-2) 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 receiving waters.

(C1-3) Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants, or materials to any receiving waters.

(C1-4) By 6 February each year the holder of this environmental authority must provide the administering authority an update of monitoring data and associated trigger levels and contaminant limits specified in Schedule C of this environmental authority, incorporating monitoring data obtained during the previous twelve (12) months.

(C1-5) All determinations of water quality/sample analysis required under a condition of this environmental authority 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 administering authorities *Monitoring and Sampling Manual*.

(c) carried out on representative samples.

(d) collected from the monitoring locations identified in this environmental authority, within two (2) hours of each other where possible; and

(e) for laboratory determinations, carried out in a laboratory accredited (e.g., NATA) for the method of analysis being used except as otherwise authorised by the administering authority.

(C1-6) The following information must be recorded in relation to all water quality monitoring data for a specified period as required by this environmental authority and submitted to the administering authority in the specified format when requested:

(a) the date and time when the sample was taken.

(b) the monitoring point where the sample was taken.

(c) the release flow rate at the time of sampling for each release point.

(d) the measured or estimated daily quantity of the contaminants released from all release points.

(e) the results of all monitoring and details of any exceedances with the conditions of this environmental authority; and

(f) all water quality monitoring data.

(C1-7) The release of contaminants directly or indirectly to waters must not:

(a) produce any visible discolouration of receiving waters; or

(b) produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter, or other objectionable matter.

(C1-8) The holder of this environmental authority must develop a Sulphate Management Plan by 31 October 2013. The Sulphate Management plan must address as a minimum:

(a) Measures to prevent sulphate release from the New Northern TSF, Southern TSF and Eastern WRD as identified in the Mt Leyshon Environmental Evaluation Report, May 2012.

(b) Measures to ensure water leaving the site contains sulphate at levels that comply with Schedule C of this environmental authority.

(c) A remedial works plan for areas downstream of the mine that details;

i) the degree to which the measured sulphate concentrations are an issue for environmental values of surface waters and ground waters.

ii) actions to address any existing sulphate related issues known to be currently occurring or causing environmental harm; and

iii) actions to address potential sulphate related issues that may cause environmental harm, such as the formation of Monosulfidic Black Ooze (MBO).

(d) Develop site-specific water quality objectives for sulphate using local biological effects data to assess risks to the aquatic ecosystem values.

Contaminant Release to Waters

(C2-1) Unless otherwise permitted under the conditions of this environmental authority, the release of contaminants to waters must only occur from the release points specified in Schedule C - Table 1 (Release Points) and depicted in Figure 1.

Schedule C – Table 1 (Release Points)

Monitoring point	Easting (GDA 94)	Northing (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
Release Points - Interpretation					
Mt Hope Dam Bypass	424373	7754659	Eastern Waste Rock Dump	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).

Monitoring point	Easting (GDA 94)	Northing (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
Settlement Dam Bypass	423133	7754970	Roche Hill. Southern Waste Rock Dump	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Release Points					
Mt Hope Dam Bypass	424357	7754064	Eastern Waste Rock Dump	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access)
Settlement Dam Bypass	423036	7754479	Roche Hill. Southern Waste Rock Dump	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access)
Plum Tree Creek Dam	422764	7757089	Scats Stockpile	Plum Tree Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Southern Tailings Storage Facility West Sump	423546	7754362	Southern Tailings Storage Facility	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Southern Tailings Storage Facility South West Sump	423520	7753798	Southern Tailings Storage Facility	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Southern Tailings Storage Facility South East Sump	424352	7754095	Southern Tailings Storage Facility	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).

Monitoring point	Easting (GDA 94)	Northing (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
Settlement Dam	423068	7754824	Roche Hill. Southern Waste Rock Dump	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Settlement Dam Sump	422839	7754726	Roche Hill. Southern Waste Rock Dump	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Supergene Dam	422935	7755781	Northern Waste Rock Dump. Heap leach Stockpile	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Supergene Dam Sump	422909	7755582	Northern Waste Rock Dump. Heap leach Stockpile	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Western Scats Sump	422749	7756168	Scats Stockpile	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Mt Hope Extension Dam	425358	7754600	Eastern Waste Rock Dump	One Mile Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).

Monitoring point	Easting (GDA 94)	Northing (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
Mt Hope Dam	424374	7754481	Eastern Waste Rock Dump. Southern Waste Rock Dump. Southern Tailings Storage Facility	Puddler Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Mt Mawe Dam	425607	7755561	Eastern Waste Rock Dump	Two Mile Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Old Northern Tailings Storage Facility West Sump	423195	7757313	Old Northern Tailings Storage Facility	Clarke Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
New Northern Tailings Storage Facility West Sump	423198	7757224	New Northern Tailings Storage Facility	Plum Tree Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
New Northern Tailings Storage Facility North Sump	423486	7758613	New Northern Tailings Storage Facility	Clarke Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Raw Water Dam	424482	7757220	Mt Mawe, Old Northern Tailings Storage Facility, Eastern Waste Rock Dump	Schreibers Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).

Monitoring point	Easting (GDA 94)	Northing (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
Raw Water Dam Sump	424691	7757331	Mt Mawe, Old Northern Tailings Storage Facility, Eastern Waste Rock Dump	Schreibers Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Old Northern Tailings Storage Facility East Sump	423930	7757412	Old Northern Tailings Storage Facility	Schreibers Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Old Northern Tailings Storage Facility North Sump	423680	7757435	Old Northern Tailings Storage Facility	Schreibers Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).
Mt Mawe Dam Sump	425809	7755583	Eastern Waste Rock Dump	Two Mile Creek	Daily during release (the first sample must be taken within 2 hours of commencement of release subject to safe access).

(C2-2) The release of contaminants to waters from the authorised release points must be monitored at the locations and frequencies specified in Schedule C – Table 1 (Release Points) for each quality characteristic specified in Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits).

Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits)

Quality Characteristic	Contaminant release limit	Trigger Levels
Physicochemical		
Electrical conductivity (EC)	TBA[1] µS/cm	TBA[1] µS/cm
pH (pH Unit)	TBA[1] (minimum) TBA[1] (maximum)	TBA[1] (minimum) TBA[1] (maximum)
Temperature (°C)	For interpretation purposes	For interpretation purposes

Quality Characteristic	Contaminant release limit	Trigger Levels
Dissolved Oxygen (DO)	For interpretation purposes	For interpretation purposes
Turbidity (NTU)	For interpretation purposes	For interpretation purposes
Total Suspended Solids (TSS)	50 mg/L	N/A
Hardness	For interpretation purposes.	For interpretation purposes.
Sulphate (SO_4^{2-})	1000[2] mg/L	TBA[1].
Metals and Metalloids		
Total Aluminium (Al)	For interpretation purposes	N/A
Dissolved Aluminium (Al)	5[2] mg/L	55[3] µg/L
Metals and Metalloids	**Total (unfiltered) concentrations**	**Dissolved (filtered) concentrations**
Arsenic (As)	0.5[2] mg/L	13[3] µg/L
Cadmium (Cd)	0.01[2] mg/L	0.2[3] µg/L
Chromium (Cr)	1[2] mg/L	1[3] µg/L
Cobalt (Co)	1[2] mg/L	2.8[3] µg/L
Copper (Cu)	1[2] mg/L	1.4[3] µg/L
Lead (Pb)	0.1[2] mg/L	3.4[3] µg/L
Nickel (Ni)	1[2] mg/L	11[3] µg/L
Uranium (U)	0.2[2] mg/L	8.0 µg/L
Zinc (Zn)	20[2] mg/L	8[3] µg/L
Non-metals		
Cyanide (WAD)	For interpretation purposes.	For interpretation purposes.
Cyanide (Total)	1 (mg/L)	7.0 (µg/L)

1. Detail to be provided by the holder of this environmental authority to the administering authority with submission of the REMP report by 1 May2015
2. Numbers based on ANZECC & ARMCANZ (2000) Livestock Drinking Water Guidelines.
3. Numbers based on ANZECC & ARMCANZ (2000) freshwater (95% level of protection) slightly-to-moderately disturbed ecosystems.
4. Number based on Cyanide Management guideline October 2008.
5. Numbers based on ANZECC (2000) Table 3.3.4, Lowland Rivers.

Note: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Exceedances apply where results for dissolved metal/metalloids concentrations exceed trigger levels. Contaminant limits apply for metal/metalloids if total results exceed limits.

Note: Hardness Modified Trigger Values (HMTV) may be performed in accordance with ANZECC 2000 methodology.

(C2-3) With the exception of high flow releases permitted under condition C4-3 of this environmental authority, the release of contaminants to waters must not exceed the contaminant limits for each quality characteristic stated in Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits).

(C2-4) If quality characteristics of the release exceed any of the trigger levels specified in Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits) during a release event, the holder of this environmental authority must complete an investigation in accordance with the ANZECC and ARMCANZ (2000) methodology into the potential for environmental harm and provide a written report to the administering authority within three (3) months detailing:

(ii) details of the investigations carried out.

(iii) details of the environmental impacts observed; and

(iv) actions taken to prevent environmental harm.

Note: An exceedance of pH relates to a value below the minimum pH or above the maximum pH levels identified in Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits).

Note: Investigations maybe undertaken to develop impact-based limits in accordance with ANZECC methodology (ANZECC guidelines – Chapter 3.5.1).

Stream Flow Monitoring

(C3-1) The holder of this environmental authority must install, operate, and maintain a stream flow gauging station to determine and record stream flows with respect to each release point, as specified in Schedule C – Table 3 (Contaminant Release During Flow Events).

(C3-2) With the exception of high flow releases permitted under condition C4-3 of this environmental authority, the release of contaminants to waters must only take place during periods of natural flow events specified as the minimum flow in Schedule C – Table 3 (Contaminant Release During Flow Events) and at the contaminant release point(s) specified in Schedule C – Table 1 (Release Points).

Schedule C – Table 3 (Contaminant Release During Flow Events)

Receiving water description	Release Point	Gauging station description	Eastern (GDA94)	Northern (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Release limit
Puddler Creek	Mt Hope Dam Bypass	PC ONL	425012	7753133	As specified in condition (C4-1)	As specified in Schedule C - Table 4 (Interim

Receiving water description	Release Point	Gauging station description	Eastern (GDA94)	Northern (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Release limit
	Settlement Dam Bypass					Release Limits for High Flow Releases)
Puddler Creek	Southern Tailings Storage Facility South West Sump	PC ONL	425012	7753133	As specified in condition (C4-1)	Continuous (minimum daily)
	Southern Tailings Storage Facility South East Sump					
	Southern Tailings Storage Facility West Sump					
	Settlement Dam					
	Settlement Dam Sump					
	Supergene Dam					
	Supergene Dam Sump					
	Mt Hope Extension Dam					
	Mt Hope Dam					

Receiving water description	Release Point	Gauging station description	Eastern (GDA94)	Northern (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Release limit
	Western Scats Sump					
Two Mile Creek	Mt Mawe Dam	TMC ONL	426457	7755355		
Clarke Creek	Plum Tree Creek Dam	CC ONL	424358	7760143		
	Old Northern Tailings Storage Facility West Sump					
	New Northern Tailings Storage Facility West Sump					
	New Northern Tailings Storage Facility North Sump					
	Raw Water Dam					
	Raw Water Dam Sump					
	Old Northern Tailings Storage Facility					

Receiving water description	Release Point	Gauging station description	Eastern (GDA94)	Northern (GDA94)	Minimum Flow in Receiving Water Required for a Release Event	Release limit
	North Sump					
	Old Northern Tailings Storage Facility East Sump					

Note: The volume of flow can be determined by height of water or flow. The actual flow must be a quantifiable measure, e.g.: ≥5m3/sec

(C4-1) With the exception of high flow releases permitted under condition C4-3 of this environmental authority, at the time of release from the authorised release points specified in Schedule C – Table 3 (Contaminant Release During Flow Events) the water flow volume in the respective receiving water must be at least twenty (20) times the volume at which respective contaminated waters are released.

(C4-2) The daily quantity of contaminants released from each release point specified in Schedule C – Table 1 (Release Points) must be measured and recorded.

High Flow By-Pass

(C4-3) The high flow release of mine affected water from the Mt Hope and Settlement Dam Bypass identified Schedule C – Table 1 (Release Points), to receiving waters must not:

(a) exceed the contaminant limits stated in Schedule C – Table 10 (Receiving Waters Contaminant Limits) at the receiving water monitoring points in Schedule C – Table 7 (Receiving Water Reference Sites and Downstream Monitoring); and

(b) from the 30 June 2013, exceed the release limits at the spillway stated in Schedule C - Table 4 (Release Limits for High Flow Releases).

(C4-4) An investigation into the potential for environmental harm in the mixing zone immediately downstream of the high flow bypass release points must be completed and submitted to the administering authority by 30 June 2014.

(C4-5) An estimate of the daily quantity of contaminants released from each release point must be based on available measured data recorded at the release points in Schedule C - Table 1 (Contaminant Release Points).

(C4-6) The release of contaminants directly or indirectly to waters:

a) must not produce any visible discolouration of receiving waters; nor

b) must not produce any slick or other visible or odorous evidence of oil, grease, or petrochemicals; nor

c) contain visible floating oil, grease, scum, litter, or other objectionable matter

(C4-7) Releases to waters must be undertaken so as to minimise erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.

Schedule C - Table 4 (Release Limits for High Flow Releases)

Quality Characteristic	Release limit for high flow
Physicochemical	
Electrical Conductivity (µS/cm)	5000[1]
pH (pH units)	5.0 (minimum) 9.0 (maximum)

1. Numbers based on ANZECC (2000) Table 3.3.9, Lowland Rivers.
2. These discharge limits take affect after the 30 June 2013.

Notification of Release Event

(C5-1) The holder of this environmental authority must notify the administering authority of a release event (no later than twenty-four (24) hours after having commenced releasing contaminated water to the receiving environment). Notification must include the submission of written verification to the administering authority of the following information:

(a) release commencement date/time.

(b) expected release cessation date/time.

(c) release point(s).

(d) release volume and contaminant load (estimated).

(e) receiving water(s) including the natural flow rate; and

(f) any details (including available data) regarding likely impacts on the receiving water(s).

(C5-2) The holder of this environmental authority must notify the administering authority within twenty-four (24) hours after cessation of a release as notified under condition (C5-1) and within twenty (20) business days provide the following information in writing:

(a) release cessation date/time.

(b) natural flow volume in receiving water.

(c) volume of water released.

(d) details regarding the compliance of the release with the conditions of Schedule C in this environmental authority (i.e., contaminant limits, natural flow, discharge volume).

(e) all in-situ water quality monitoring results; and

(f) any other matters pertinent to the release.

Onsite Water Storages

(C6-1) Water storages stated in Schedule C – Table 5 (Onsite Water Storage Monitoring Locations) must be monitored for the water quality characteristics specified in Schedule C -Table 6 (Onsite Water Storage Contaminant Limits) at the monitoring locations and at the monitoring frequency specified in Schedule C – Table 5 (Onsite Water Storage Monitoring Locations).

Schedule C – Table 5 (Onsite Water Storage Monitoring Locations)

Water Storage Description	Easting (GDA94)	Northing (GDA94)	Monitoring Location	Frequency of Monitoring
Plum Tree Creek Dam	0422833	7757051	Plum Tree Creek Dam	Annually
Old Northern Tailings Storage Facility West Sump	0423263	7757202	Old Northern Tailings Storage Facility West Sump	Annually
New Northern Tailings Storage Facility West Sump	0423061	7758127	New Northern Tailings Storage Facility West Sump	Annually
Southern Tailings Storage Facility South West Sump	0423563	7753799	Southern Tailings Storage Facility South West Sump	Annually
Settlement Dam	0422911	7754896	Settlement Dam	Annually
Settlement Dam Sump	0422843	7754736	Settlement Dam Sump	Annually

Water Storage Description	Easting (GDA94)	Northing (GDA94)	Monitoring Location	Frequency of Monitoring
Supergene Dam	0422961	7755752	Supergene Dam	Annually
Supergene Sump	042219	7755602	Supergene Dam Sump	Annually
Western Scats Sump	0422747	7756201	Western Scats Sump	Annually
Mt Hope Extension Dam	0425256	7754627	Mt Hope Extension Dam	Annually
Mt Hope Dam	0424474	7754519	Mt Hope Dam	Annually
Mt Mawe Dam	0425714	7755573	Mt Mawe Dam	Annually
Mt Mawe Dam Sump	0425797	7755569	Mt Mawe Dam Sump	Annually
New Northern Tailings Storage Facility North Sump	0423467	7758575	New Northern Tailings Storage Facility North Sump	Annually
Raw Water Dam	0424539	7757228	Raw Water Dam	Annually
Raw Water Dam Sump	0424679	7757331	Raw Water Dam Sump	Annually
Old Northern Tailings Storage Facility East Sump	0423927	7757406	Old Northern Tailings Storage Facility East Sump	Annually
Upper Plum Tree Creek Dam	0422762	7756889	Upper Plum Tree Creek Dam	Annually
Old Northern Tailings Storage Facility North Sump	0423656	7757431	Old Northern Tailings Storage Facility North Sump	Annually

Water Storage Description	Easting (GDA94)	Northing (GDA94)	Monitoring Location	Frequency of Monitoring
Southern Tailings Storage Facility South East Sump	0424329	7754077	Southern Tailings Storage Facility South East Sump	Annually
Southern Tailings Storage Facility West Sump	0423535	7754321	Southern Tailings Storage Facility West Sump	Annually

(C6-2) In the event that waters storages defined in Schedule C – Table 5 (Onsite Water Storage Monitoring Locations) exceed the contaminant limits defined in Schedule C -Table 6 (Onsite Water Storage Contaminant Limits) the holder of this environmental authority must implement measures to prevent access to waters by all livestock and minimise access by native fauna.

(C6-3) In the event that waters storages defined in Schedule C – Table 5 (Onsite Water Storage Monitoring Locations) exceed the contaminant limits defined in Table 3 (Contaminant concentrations and minimum dam volumes) in the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* (and any subsequent versions), condition (H1-8) of this environmental authority applies.

Schedule C – Table 6 (Onsite Water Storage Contaminant Limits)

Parameter[3]	Unit	Test Value	Contaminant Limit (mg/L)
pH	pH unit	Range	Greater than 4, less than 9[2]
Temperature	°C	For interpretation purposes	For interpretation purposes
Dissolved Oxygen (DO)	mg/L and percent saturation	For interpretation purposes	For interpretation purposes
EC	µS/cm	For interpretation purposes	For interpretation purposes
Total Dissolved Solids (TDS)	mg/L	Maximum	4000[5]
Sulphate	mg/L	Maximum	1000[1]

Parameter[3]	Unit	Test Value	Contaminant Limit (mg/L)
Aluminium	mg/L	Maximum	5[1]
Arsenic	mg/L	Maximum	0.5[1]
Cadmium	mg/L	Maximum	0.01[1]
Chromium	mg/L	Maximum	1[1]
Cobalt	mg/L	Maximum	1[1]
Copper	mg/L	Maximum	1[1]
Lead	mg/L	Maximum	0.1[1]
Nickel	mg/L	Maximum	1[1]
Uranium	mg/L	Maximum	0.2
Zinc	mg/L	Maximum	20[1]
WAD Cyanide	mg/L	Maximum	50[4]
Total Cyanide	mg/L	Maximum	For interpretation purposes

1. Contaminant limit based on ANZECC (2000) stock water quality guidelines.
2. 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".
3. All metals and metalloids must be measured as total (unfiltered).
4. Recognised limit for no impact on wildlife (pp11, Donato et al. 2007, Commonwealth of Australia, Leading Practice Sustainable Development Program for the Mining Industry – Cyanide Management Handbook, May 2008).
5. TDS of 4000 mg/L indicator of 5970 µS/cm EC.

Receiving Waters Monitoring

(C7-1) Receiving waters must be monitored at the locations specified in Schedule C – Table 7 (Receiving Water and Downstream Monitoring Points) for each quality characteristic and at the frequency stated in Schedule C – Table 9 (Receiving Waters Contaminant Trigger Levels) and Schedule C – Table 10 (Receiving Waters Contaminant Limits).

Schedule C – Table 7 (Receiving Water and Downstream Monitoring Points)

Monitoring point	Easting MGA (GDA 94)	Northing MGA (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
Surface water					
PCC	425007	7753123	Plant Area, Northern Waste Rock Dump, ROM Stockpile, Heap Leach and Low-Grade Stockpile	Puddler Creek Crossing	Event based sampling of release or flow events: One sample must be taken within 12 hours of a release event or flow event commencing subject to safe access. A second sample must be taken between 12
SW101 (new)	425188	7759615	New Northern Tailings Storage Facility & Old	Schreibers Creek	

Monitoring point	Easting MGA (GDA 94)	Northing MGA (GDA 94)	Contaminant Source and Location	Receiving waters description	Monitoring frequency
			Northern Tailings Facility		and 24 hours after the release event or flow event commences subject to safe access.[2] Where a release event has a duration of 24 hours or greater, samples must be taken daily for one week, and once a week thereafter until release or flow event ceases. [2]
SW104 (new)	426307	7753660	Eastern Waste Rock Dump	One Mile Creek	
RSSCC	424352	7760186	New Northern Tailings Storage Facility	Clarke Creek – Northern Boundary	
RSSTMC	426476	7755356	Eastern Waste Rock Dump	Two Mile Creek – Eastern Boundary	
RSSPC (new)	425950	7753059	Southern Tailings Facility	Puddler Creek – Southern Boundary	
Surface Water - For interpretation purposes only					
SW102	422895	7757364	Scats Stockpile	Plumtree Creek	Event based sampling of release or flow events: One sample must be taken within 12 hours of a release event or flow event commencing subject to safe access. A second sample must be taken between 12 and 24 hours after the release event or flow event commences subject to safe access.[2] Where a release event has a duration of 24 hours or greater, samples must be taken daily for one week, and once a week thereafter until release or flow event ceases. [2]
SW105 SW106	422906 423573	7758078 7753669	New Northern Tailings Storage Facility & Old Northern Tailings Facility	Clark Creek	
SW108 SW109	423603 424510	7753656 7753669	Southern Tailings Facility	Puddler Creek	
SW110 SW107 SW103	423113 422687 422742	7754704 7754503 7755147	Plant Area, Northern Waste Rock Dump, ROM Stockpile, Heap Leach and Low-Grade Stockpile	Puddler Creek	

1. Data to be used for interpretation purposes only.
2. Where release(s) or flow event(s) occur simultaneously only one (1) set of samples are required to be taken.

Schedule C – Table 8 (Receiving Stream Sediment Monitoring Points)

Monitoring point	Easting MGA (GDA 94)	Northing MGA (GDA 94)	Contaminant Source and Location	Receiving waters description
SED 1 (new) (SW101 (new))	425188	7759607	New Northern Tailings Storage Facility & Old Northern Tailings Storage Facility	Clark Creek, Schreibers Creek
SED 4 (new) (SW104 (new))	426307	7753660	Eastern Waste Rock Dump	One Mile Creek
SED 5 (SW47)	423149	7753277	Puddler Creek background	Puddler Creek
SED 6 (new) (RSSPC (new))	425950	7753059	Southern Tailings Storage Facility	Puddler Creek – Southern Boundary
SED 9 (RSSTMC)	426476	7755356	Eastern Waste Rock Dump	Two Mile Creek –Eastern Boundary
SED 8 (RSSCC)	424352	7760186	New Northern Tailings Storage Facility	Clarke Creek – Northern Boundary
Receiving Stream Sediment - For interpretation purposes only				
SED 2 (SW102)	422895	7757364	Scats Stockpile	Plumtree Creek
SED 3 (SW103)	422742	7755145	Plant Area, Northern Waste Rock Dump, ROM Stockpile, Heap Leach and Low-Grade Stockpile	Puddler Creek
SED 7 (SWCC1)	422470	7759446	Clarke Creek background	Clarke Creek

Schedule C – Table 9 (Receiving Waters Contaminant Trigger Levels)

Quality Characteristic[1]	Trigger Level (µg/L)	Monitoring Frequency
pH (pH units)	TBA (minimum)[14] TBA (maximum)[14]	Event based sampling of release or flow events: One sample must be taken within 12 hours of a release event or flow event commencing subject to safe access. A second sample must be taken between 12 and 24 hours after the release event or flow event commences subject to safe access.[15] Where a release event has a duration of 24 hours or greater, samples must be taken daily for one week, and once a week thereafter until release or flow event ceases. [15]
EC (µS/cm)	TBA [14]	
Sulphate	TBA[14]	
Turbidity (NTU)	15[2]	
Suspended Solids	TBA[14]	
Temperature (°C)	For interpretation purposes	
Dissolved Oxygen (DO)	For interpretation purposes	
Aluminium (total)	For interpretation purposes	
Aluminium (dissolved)	55[2]	
Arsenic[11]	13[2]	
Cadmium	0.2[2]	
Chromium[12]	1[2]	

Quality Characteristic[1]	Trigger Level (µg/L)	Monitoring Frequency
Cobalt	2.8[4]	
Copper	1.4[2]	
Iron	300[2]	
Lead	3.4[2]	
Manganese	1900[2]	
Molybdenum	34[2]	
Nickel	11[2]	
Selenium	11[2]	
Uranium	8.0	
Zinc	8[2]	
Hardness	For interpretation purposes only.	
Major Cations and Anions	For interpretation purposes only.	
Unionised Cyanide (as CN)[16]	7.0[2]	
Cyanide (Free)[16]	For interpretation purposes	
Cyanide (WAD)	For interpretation purposes.	
Cyanide (Total)	For interpretation purposes.	

1 All metals and metalloids must be measured as dissolved (filtered) concentrations.
2 For aquatic ecosystem protection, based on ANZECC 2000, Table 3.4.1, 95% ecosystem protection.
3 For aquatic ecosystem protection, Table G.4, Burdekin Bowen of the Queensland Water Quality Guidelines, 2009.

4 Reference sites as specified in Schedule C – Table 7 (Receiving Water Reference Sites and Downstream Monitoring Points).
5 Trigger level must be based on reference samples taken during the same sampling event.
6 The initial trigger level is based on a single sampling event and is the reference value obtained at the time of a release and applies until sufficient data is acquired to develop interim trigger levels.
7 80th percentiles are calculated using ANZECC 2000 methodology (section 7.4.4.1).
8 Based on results from the Receiving Environment Monitoring Program.
9 The interim contaminant trigger levels are based on the results of between 8 and 17 consecutive samples (calculated in accordance with ANZECC 2000) and applies until sufficient data is acquired to develop final trigger levels.
10 The final trigger level is based on twenty-four (24) consecutive samples (calculated in accordance with ANZECC 2000 (18 at a minimum)).
11 Speciated arsenic concentrations for As (III) and As (V) only required if 13 µg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.
12 Speciated chromium concentrations for Cr (III) and Cr (VI) only required if 1.0 µg/L is exceeded – note that the sample bottle requirements for Cr (total species) and Cr (speciated) may differ.
13 Based on the Mt Leyshon – Review of background water parameters by Schlumberger Water Services - 4 April 2013.
14 Detail to be provided by the holder of this environmental authority to the administering authority with submission of the REMP report by 1 May 2015
15 Where release(s) or flow event(s) occur simultaneously only one (1) set of samples are required to be taken.
16. The unionised cyanide calculation is not required when free cyanide is less than the unionised cyanide limit.

NOTES
(a) Where release(s) or flow event(s) occur simultaneously only one (1) set of samples are required to be taken.
(b) All dissolved (filtered) samples must be obtained from field filtered grab samples.
(c) Hardness Modified Trigger Values (HMTV) may be performed in accordance with ANZECC 2000 methodology.

Schedule C – Table 10 (Receiving Waters Contaminant Limits)

Quality Characteristic[1]	Contaminant Limit (mg/L)	Monitoring Frequency
pH (pH units)	TBA (minimum)[14] TBA (maximum)[14]	Event based sampling of release or flow events: One sample must be taken within 12 hours of a release event or flow event commencing subject to safe access. A second sample must be taken between 12 and 24 hours after the release event or flow event commences subject to safe access.[2]
EC (µS/cm)	TBA[14]	
Sulphate	1000[10]	
Turbidity (NTU)	TBA[14]	
Suspended Solids	TBA[14]	
Aluminium (total)	For interpretation purposes	

Quality Characteristic[1]	Contaminant Limit (mg/L)	Monitoring Frequency
Aluminium (dissolved)	5[10]	Where a release event has a duration of 24 hours or greater, samples must be taken daily for one week, and once a week thereafter until release or flow event ceases. [2]
Arsenic[11]	0.5[10]	
Cadmium	0.01[10]	
Chromium[12]	1[10]	
Cobalt	1[10]	
Copper	1[10]	
Lead	0.1[10]	
Molybdenum	0.15[10]	
Nickel	1[10]	
Selenium	0.02[10]	
Uranium	0.2[10]	
Zinc	20[10]	
Hardness	For interpretation purposes only.	
Major Cations and Anions	For interpretation purposes only.	
Unionised Cyanide (as CN)[15]	N/A	

Quality Characteristic[1]	Contaminant Limit (mg/L)	Monitoring Frequency
Cyanide (Free)[15]	0.22	
Cyanide (WAD)	For interpretation purposes.	
Cyanide (Total)	For interpretation purposes.	

1 All metals and metalloids must be measured as total (unfiltered) concentrations.
2 Where release(s) or flow event(s) occur simultaneously only one (1) set of samples are required to be taken.
3 Based on administering authority information resulting from the review of water quality in the Fitzroy basin.
4 Reference sites are defined in Schedule C – Table 6 (Receiving Water Reference Sites and Downstream Monitoring Points).
5 The initial contaminant limit is based on a single sampling event and is the value of the reference value obtained at the time of a release plus 10% and applies until sufficient data is acquired to develop interim limits.
6 Percentiles are calculated using ANZECC (2000) methodology (section 7.4.4.1).
7 Based on results from the Receiving Environment Monitoring Program.
8 The interim contaminant limit is based on the results of between 8 and 17 consecutive samples obtained from the reference locations (calculated in accordance with ANZECC 2000) and applies until sufficient data is acquired to develop final limits.
9 The final contaminant limit is based on twenty-four (24) consecutive samples obtained from the reference locations (calculated in accordance with ANZECC 2000) (18 at a minimum).
10 Contaminant limits based on ANZECC (2000) stock water quality guidelines.
11 Speciated arsenic concentrations for As (III) and As (V) only required if 13 μg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.
12 Speciated chromium concentrations for Cr (III) and Cr (VI) only required if 1.0 μg/L is exceeded – note that the sample bottle requirements for Cr (total species) and Cr (speciated) may differ.
13 Based on the Mt Leyshon – Review of background water parameters by Schlumberger Water Services - 4 April 2013.
14 Detail to be provided by the holder of this environmental authority to the administering authority with submission of the REMP report by 1 May2015.
15. The unionised Cyanide calculation is not required when free cyanide is less than the unionised cyanide limit.

NOTES
(a) Grab sampling is the preferred method for sample collection.

(C7-2) If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels specified in Schedule C – Table 9 (Receiving Waters Contaminant Trigger Levels), the holder of this environmental authority must complete an investigation in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within three (3) months, outlining:

(i) details of the investigations carried out.

(ii) details of the environmental impacts observed; and

(iii) actions taken to prevent environmental harm.

Note: Investigations maybe undertaken to develop impact-based limits in accordance with ANZECC methodology (ANZECC guidelines – Chapter 3.5.1).

(C7-3) The release of contaminants must not result in an exceedance of the contaminant limits stated in Schedule C – Table 10 (Receiving Waters Contaminant Limits).

Note: Investigations maybe undertaken to develop impact-based limits in accordance with ANZECC methodology (ANZECC guidelines – Chapter 3.5.1).

Receiving Environment Monitoring Program

(C8-1) A Receiving Environment Monitoring Program (REMP) must be developed and implemented by 1 November 2013 to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being released from the licensed place with the aim of identifying and describing the extent of any adverse impacts on local environmental values and to monitor any changes in the receiving water (including groundwater). A copy of the REMP and any update or variation of the REMP must be provided to the administering authority prior to its implementation and due consideration given to any comments made on the REMP by the administering authority.

(C8-2) The REMP must address (but not necessarily be limited to) the following:

(a) description of potentially affected receiving groundwaters and surface waters including key communities and reference water quality and sediment characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g., seasonality).

(b) description of applicable environmental values and water quality objectives to be achieved (i.e., as scheduled pursuant to the *Environmental Protection (Water) Policy* 2009).

(c) any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment to which the REMP applies.

(d) water and sediment quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or level indicating adverse environmental impacts during the REMP.

(e) monitoring for any potential adverse environmental impacts caused by a release.

(f) monitoring of stream flow and hydrology.

(g) monitoring of toxicants that must consider the indicators specified in Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits) to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC and ARMCANZ (2000) Guidelines for slightly to moderately disturbed ecosystems.

(h) monitoring of physical and chemical parameters including as a minimum those specified in Schedule C – Table 2 (Contaminant Release Trigger Levels and Limits) (in addition to dissolved oxygen saturation and temperature).

(i) monitoring biological indicators (for macroinvertebrates in accordance with the administering authority's monitoring and sampling manual (AusRivas Methodology) and metals/metalloids in sediments (in accordance with ANZECC and ARMCANZ (2000), BATLEY (A guide to the Application of the ANZECC/ARMCANZ Water Quality Guidelines in the Minerals Industry) and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*) for permanent, semi-permanent water holes and water storages.

(j) the locations of monitoring points (including the locations of reference/upstream and downstream potentially impacted sites for each release point). Reference sites must comply with the following criteria:

  (i) be from the same bio-geographic and climatic region.

  (ii) have similar geology, soil types and topography.

  (iii) contain a range of habitats similar to those at the potentially impacted sites.

  (iv) have a similar flow regime; and

  (v) not be so close to the potentially impacted sites that any disturbance at the potentially impacted sites also results in a change at the reference site.

(k) the frequency or scheduling of sampling and analysis that is sufficient to determine water quality objectives and to derive site specific reference values within two (2) years (depending on wet season flows) in accordance with the *Queensland Water Quality Guidelines*. For ephemeral streams, this should include periods of flow irrespective of mine or other release.

(l) specify sampling and analysis methods and quality assurance and control.

(m) any historical datasets to be relied upon.

(n) description of the statistical basis on which conclusions are drawn; and

(o) any spatial and temporal controls to exclude potential confounding factors.

(C8-3) A report outlining the findings of the REMP including all monitoring results and interpretations in accordance with condition (C8-2) must be prepared and submitted in writing to the administering authority by 1 May 2015 and thereafter once every twelve (12) months. The report must include an assessment of reference water quality, any assimilative capacity for those contaminants monitored and the suitability of current release limits to protect downstream environmental values.

Stream Sediment Monitoring

(C9-1) Sediment quality of receiving waters must be monitored once a year (at the end of the wet season) at the monitoring locations defined in Schedule C – Table 8 (Receiving Stream Sediment Monitoring Points) and for the parameters defined in Schedule C – Table 11 (Stream Sediment Trigger Levels and Contaminant Limits).

Note: 1M HCL digestion and <2mm fraction is required for sample analysis conducted in accordance with ANZECC methodology.

(C9-2) If the quality characteristics of sediments exceed any of the trigger levels specified in Schedule C – Table 11 (Stream Sediment Trigger Levels and Contaminant Limits), the holder of this environmental authority must complete an investigation in accordance with the ANZECC and ARMCANZ (2000) methodology, into the potential for environmental harm and provide a written report to the administering authority within four (4) months, outlining:

(i) details of the investigations carried out.

(ii) details of the environmental impacts observed; and

(iii) actions taken to prevent environmental harm.

Note: Investigations maybe undertaken to develop impact-based limits in accordance with ANZECC methodology (ANZECC guidelines – Chapter 3.5.1).

(C9-3) The release of contaminants must not result in an exceedance of the sediment contaminant limits stated in Schedule C – Table 11 (Stream Sediment Trigger Levels and Contaminant Limits).

(C9-4) All stream sediment sampling must be undertaken in accordance with the most recent version of Australian Standard AS 5667.12 *Guidance on Sampling of Bottom Sediments.*

Schedule C – Table 11 (Stream Sediment Trigger Levels and Contaminant Limits)

Parameter	Unit	Contaminant Limit	Trigger Level
Arsenic	mg/kg	70[2]	20[1]
Cadmium	mg/kg	10[2]	1.52
Cobalt	mg/kg	100[6]	50[5]
Copper	mg/kg	270[2]	65[2]
Lead	mg/kg	220[2]	50[2]
Manganese	mg/kg	1500[6]	TBA[6]
Mercury	mg/kg	1[3]	0.15[2]
Nickel	mg/kg	52[2]	21[2]
Uranium	mg/kg	For interpretation purposes only.	For interpretation purposes only.

Parameter	Unit	Contaminant Limit	Trigger Level
Zinc	mg/kg	410[2]	200[1]
Total Cyanide	mg/kg	50[4]	25[3]
Particle size distribution on all samples for interpretation purposes			

1 ANZECC & ARMCANZ (2000) Interim Sediment Quality Guidelines – low values based on total sediments
2 ANZECC (2000) Interim Sediment Quality Guidelines – high values based on total sediments
3 The 25mg/kg is based on half of DME, 1993. Guidelines for Assessment and Management of Land Contamination. Dept of Mineral and Energy Draft Technical Guidelines for Environmental Management for Mining in Qld
4 The 50mg/kg is based on the DME, 1993. Guidelines for Assessment and Management of Land Contamination. Dept of Mineral and Energy Draft Technical Guidelines for Environmental Management for Mining in Qld.
5 Dutch B (Indicative value for further investigation) from Moen, J.E.T., Cornet, J.P and Evers, C.W.A (1986) Soil protection and remedial actions: criteria for decision making and standardisation of requirements, in Assink, J.W and van den Brink, W.M (1986) *Contaminated Soils, First International TNO Conference on Contaminated Soil 11-15 November 1985.*
6 National Environmental Protection Council, Health Investigation Levels - Exposure setting A

Water Management Plan

(C10-1) A water management plan must be developed and implemented by 30 September 2013 which provides for the proper and effective management of the actual and potential environmental impacts resulting from the mining activity and to ensure compliance with the conditions of this environmental authority.

(C10-2) The water management plan must be developed in accordance with the most recent edition of the administering authority's guideline *Preparation of Water Management Plans for Mining Activities* and must include at least the following components:

a) contaminant source study.

b) site water balance and model.

c) water management system.

d) saline drainage prevention and management measures.

e) acid rock drainage prevention and management measures.

f) emergency and contingency planning; and

g) monitoring and review.

(C10-3) The holder of this environmental authority must undertake a review of the water management plan before 1 November each year to ensure that proper and effective measures, practices, or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

Site Water Balance

(C11-1) The holder of this environmental authority must develop a site-specific operational site water balance model.

(C11-2) The water balance model must be:

(a) run prior to the wet season.

(b) promptly after each rainfall event greater than fifty (100) millimetres within a twenty-four (24) hour period within the relevant surface water containment area.

(c) with documentation of inputs and outputs from each run being stored and retrievable for a minimum period of one (1) year.

(d) performed in response to rainfall to be undertaken by an appropriately qualified person; and

(e) assessed using the operational simulation water balance model using a minimum of 100 years of historical rainfall data.

Erosion and Sediment Control

(C12-1) An erosion and sediment control plan must be developed by the 28 February 2014, by an appropriately qualified person and implemented for all stages of the mining activity on the licensed place to prevent or minimise erosion and the release of sediment to receiving waters and the contamination of stormwater.

(C12-2) The erosion and sediment control plan must provide for at least the following functions:

(a) prevent or minimise the contamination of receiving waters and stormwater.

(b) diverting uncontaminated stormwater run-off around areas disturbed by the mining activity or where contaminants or wastes are stored or handled.

(c) contaminated stormwater runoff, incident rainfall and leachate are collected; and treated, reused, or released in accordance with the conditions of this environmental authority.

(d) roofing or minimising the size of areas where contaminants or wastes are stored or handled.

(e) erosion and sediment control structures are placed to minimise erosion of disturbed areas and prevent the contamination of any waters.

(f) procedures to ensure that erosion and sediment control structures are maintained, and adequate storage is available in sediment dams in accordance with design criteria; and

(g) training of staff that will be responsible for maintenance and operations of sediment and erosion control structures.

(C12-3) Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters or cause a material build-up of sediment in such waters.

(C12-4) 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.

Groundwater Monitoring Program

(C13-1) By 30 November 2013 the holder of this environmental authority must submit a groundwater monitoring program to the administering authority that must include:

(a) groundwater monitoring bore locations.

(b) justification for the location of the proposed groundwater monitoring locations, including, but not limited to:

(i) sufficient background/reference monitoring sites, that are unaffected by the mining activity authorised under this environmental authority to allow scientifically justifiable conclusions on the level of impact from the mining activity.

(ii) natural/un-impacted flow assessment of all watercourses affected by mining activity; and

(iii) sufficient number of monitoring bores to enable early detection of any groundwater contamination.

(c) monitoring of both shallow and deep groundwater and includes an adequate number of monitoring bores which provides sufficient spatial coverage to enable scientifically justifiable conclusions in relation to potential environmental impacts from the mining activity.

(d) provision for development of baseline groundwater quality, groundwater flow direction and rate and hydraulic conductivity. In addition, consideration must be given to how these parameters may change during the life of the mining project.

(e) characterisation of the potential impacts to the local groundwater system arising from the mining activity.

(f) representative groundwater samples for the aquifers being sampled.

(g) bore construction details; and findings from any resistivity studies undertaken at the licensed place

(C13-2) The groundwater monitoring program specified in condition (C13-1) must be independently certified by an appropriately qualified person.

(C13-3) The Groundwater Monitoring Program must be reviewed at least once a year before 1 October to ensure that proper and effective measures, practices, or procedures are in place so that the mine is operated in accordance with the conditions of this environmental authority and that environmental harm is prevented or minimised.

Monitoring bore construction, maintenance, and decommissioning

(C14-1) Groundwater monitoring bores must be constructed, maintained, and decommissioned 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.*

(C14-2) Oil-based drilling fluids, oil-based additives, synthetic based drilling fluids or synthetic based additives must not be used in the construction of groundwater monitoring bores.

(C14-3) Current Material Safety Data Sheets for all substances used for the drilling of groundwater monitoring bores must be made available to the administering authority promptly upon request.

(C14-4) Remedial measures must be taken immediately if the holder of this environmental authority becomes aware that either monitoring bore construction, maintenance or decommissioning have resulted in a change in groundwater quality, groundwater levels or have caused the interconnection of aquifers.

Groundwater monitoring

(C15-1) Groundwater quality and level must be monitored at the locations and frequencies defined in Schedule C – Table 12 (Groundwater Monitoring Locations and Frequency) for quality characteristics identified in Schedule C – Table 13 (Groundwater contaminant and trigger limits).

Schedule C – Table 12 (Groundwater Monitoring Locations and Frequency)

Monitoring Point	Easting (GDA94)	Northing (GDA94)	Collar Elevation[1] (mAHD)	Monitoring Frequency
Background Bores				
NMLMB23	422079	7759757	309.29	Quarterly Sampling
NMLMB51	422254	7755020	343.41	Quarterly depth to groundwater
Interpretation Bores				
MLM28	425205	7754639	333.58	Annual Sampling (end dry season) Quarterly depth to groundwater
NMLMB1	422920	7759164	302.88	
NMLMB15D	425807	7755642	330.30	
NMLMB22	422897	7757125	339.47	

NMLMB3	423542	7753737	326.76	
NMLMB3S	423545	7753736	327.31	
NMLMB32	424565	7757943	329.37	
NMLMB40	423185	7754767	345.41	
NMLMB47D	423154	7758370	315.29	
NMLMB2	423644	7759803	300.18	
Compliance Bores				
NMLMB5	426236	7753716	313.66	Quarterly Sampling Quarterly depth to groundwater
NMLMB7	422412	7758511	315.43	
NMLMB18	422065	7756531	358.83	
NMLMB28	425070	7759097	306.70	
NMLMB34	426680	7755249	316.01	
NMLMB38	424514	7753450	322.66	
NMLMB39	423623	7753332	328.03	

1. Must be measured to the nearest 5cm from the top of the bore casing.

Schedule C – Table 13 (Groundwater contaminant and trigger limits)

Quality Characteristic[10]	Contaminant release limit[11] (for metals based on total metal concentrations	Trigger Levels (for metals based on filtered samples)
Electrical conductivity	TBA[14] (µS/cm)	TBA[14] (µS/cm)
pH (pH Unit)	TBA[14] (minimum) TBA[14] (maximum)	TBA[14] (minimum) TBA[14] (maximum)
Dissolved Oxygen (DO)	For interpretation purposes	For interpretation purposes
Sulphate(SO_4^{2-})	1000[8] (mg/L)	TBA[14]
Aluminium	5[7] (mg/L)	55[1] (µg/L)
Arsenic[5]	0.5[7] (mg/L)	13[1] (µg/L)
Cadmium	0.01[7] (mg/L)	0.2[1] (µg/L)
Chromium[6]	1[7] (mg/L)	1 (µg/L)
Cobalt	1[7] (mg/L)	2.8[1] (µg/L)
Copper	1[7] (mg/L)	1.4[1] (µg/L)
Lead	0.1[7] (mg/L)	3.4[1] (µg/L)
Nickel	1[7] (mg/L)	11[1] (µg/L)
Zinc	20[7] (mg/L)	8[1] (µg/L)
Cyanide (Free)	0.22[12] (mg/L)	7.0[1] (µg/L)
Cyanide (WAD)	For interpretation purposes.	For interpretation purposes.

1 Default trigger values – from ANZECC/ARMCANZ (2000) trigger values for aquatic ecosystems indicative of slightly-to-moderately disturbed tropical Australian Lowland river ecosystems Tables 3.3.4 and Table 3.4.1 (*high reliability* trigger values) and *moderate* or *low* reliability trigger values (Section 8.3) if no value available in Table 3.4.1.
2 Based on the *Queensland Water Quality Guidelines* (EHP 2009), Appendix G.
3 80th and 95th percentiles calculated using ANZECC (2000) methodology (section 7.4.4.1).
4 Reference sites must be determined in accordance with condition C13-1 (REMP):
5 Speciated arsenic concentrations for As (III) and As (V) only required if 13 μg/L is exceeded - note that the sample bottle requirements for As (total species) and As (speciated) may differ.
6 Speciated chromium concentrations for Cr (III) and Cr (VI) only required if 1.0 μg/L is exceeded – note that the sample bottle requirements for Cr (total species) and Cr (speciated) may differ.
7 Contaminant limits based on ANZECC (2000) stock water quality guidelines.
8 Based on EHP information resulting from the review of water quality in the Fitzroy Basin.
9 To be provided when data available based on results from the Receiving Environment Monitoring Program.
10 All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered) concentrations.
11 Limit based on 95th percentile of the 24 most recent consecutive reference samples obtained at the time of a release (18 at a minimum).
12 International Cyanide Management Code (ICMI 2006).
13 Based on the Mt Leyshon – Review of background water parameters by Schlumberger Water Services - 4 April 2013.
14 Detail to be provided by the holder of this environmental authority to the administering authority with submission of the REMP report by 1 May 2015.

NOTES
(a) Grab sampling is the preferred method for sample collection.
(b) All dissolved (filtered) samples must be obtained from field filtered grab samples.
(c) Hardness Modified Trigger Values (HMTV) may be performed in accordance with ANZECC 2000 methodology.

(C15-2) If quality characteristics of groundwater from compliance bores identified in Schedule C – Table 12 (Groundwater Monitoring Locations and Frequency) exceed any of the trigger levels stated in Schedule C – Table 13 (Groundwater contaminant and trigger limits), the holder of this environmental authority must complete an investigation in accordance with the ANZECC and ARMCANZ 2000, into the potential for environmental harm and provide a written report to the administering authority within three (3) months, outlining:

(i) details of the investigations carried out.

(ii) details of environmental impacts observed; and

(iii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with clause (b) of this condition, then no further reporting is required for subsequent trigger events for that quality characteristic within the three-month investigation period.

Note: Investigations maybe undertaken to develop impact-based limits in accordance with ANZECC methodology (ANZECC guidelines – Chapter 3.5.1).

(C15-3) Results of monitoring of groundwater from compliance bores identified in Schedule C – Table 12 (Groundwater Monitoring Locations and Frequency), must not exceed any of the limits defined in Schedule C – Table 13 (Groundwater contaminant and trigger limits).

Annual Groundwater Monitoring Report

(C16-1) The holder of this environmental authority must complete an annual groundwater monitoring report by 1 February each year and submit this report to the administering authority. The report be prepared by an appropriately qualified person and must address the following requirements as a minimum:

(a) analyses of groundwater chemistry and hydrogeological data for all groundwater monitoring bores required in condition (C15-2)

(b) identify exceedance of any contaminant trigger levels or limits listed in Schedule C – Table 13 (Groundwater contaminant and trigger limits).

(c) discuss effectiveness of the current groundwater monitoring regime and any improvements that could be made to ensure early detection of impacts to groundwater.

(d) detail proposed actions and timeframes to undertake further investigation of potential environmental impacts for any exceedance identified.

(e) detail proposed mitigation measures for any detected impact to groundwater resulting from the mining activity.

(f) changes in groundwater levels plotted as a function of time to identify seasonal patterns and possible draw-down effects.

(g) groundwater elevation contours and flow direction; and

(h) interpretation and discussion of exceedance of any contaminant trigger levels or limits listed in Schedule C – Table 13 (Groundwater contaminant and trigger limits) and the implications for compliance with this environmental authority.

(C16-2) The method of sampling of groundwater must comply with that set out in the latest edition of the Administering Authority's Water Quality Sampling Manual.

Saline, acid, and metalliferous drainage

(C17-1) 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, acid and/or metalliferous mine drainage as a result of the mining activity.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Noise and Vibration

Noise nuisance

(D1-1) Noise from the mining activity must not cause an environmental nuisance, at any sensitive or commercial place.

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Waste

Waste Management Program

(E1-1) A waste management program in accordance with Part 5 of the *Environmental Protection (Waste Management) Policy 2000* must be developed, implemented, and maintained for all mining activities. The waste management program must be submitted to the administering authority (To be provided to the administering authority by 28 February 2014 and be included in each subsequent Plan of Operations. The program must include:

(a) a description of the mining activities that may generate waste.

(b) waste management control strategies including.

i) recording of the types and amounts of wastes generated by the mining activities.

ii) segregation of the wastes.

iii) storage of the wastes.

iv) transport of the wastes.

v) monitoring and reporting matters concerning the waste.

(c) the hazard characteristics of the wastes generated including disposal procedures for hazardous wastes.

(d) a program for reusing, recycling, or disposing of all wastes.

(e) 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).

(f) 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.

(g) procedures for dealing with accidents, spills, and other incidents that may impact on waste management.

(h) details of any accredited management system employed, or planned to be employed, to deal with the waste.

(i)how often the performance of the waste management practices will be assessed.

(j)the indicators or other criteria on which the performance of the waste management practices will be assessed; and

(k) staff training and induction to the waste management program.

Off Site Movement of Regulated Wastes

(E2-1) Where regulated waste is removed from the licensed place (other than by a release as permitted under another schedule of this environmental authority), 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 2008*, is carried out by a person licensed for carrying out this activity under the *Environmental Protection Act 1994*.

(b) records are kept of the following:

i. the date, quantity and type of waste removed.

ii. name of the regulated waste transporter 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.

(E2-2) Regulated waste awaiting removal may be temporarily stored on site.

(E2-3) Each container of regulated waste stored awaiting movement off-site must be clearly marked to identify the contents.

Notification of Improper Disposal of Regulated Waste

(E3-1) 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.

(E3-2) Regulated waste generated by maintenance of plant and equipment and absorbent materials used to clean up spills must only be disposed of at a facility whose operator is permitted to accept such waste in accordance with the requirements of the *Environmental Protection Act 1994.*

Other Wastes

(E4-1) The only wastes that may be disposed of on site are those authorised under this Environmental Authority.

General waste disposal

(E5-1) All waste (other than mined waste rock and tailings or their derivatives) produced as part of the mining operation must be transported to the Charters Towers licensed waste disposal facility or another lawful facility and disposed of correctly at a minimum on a monthly basis.

(E5-2) The environmental authority holder shall not cause, allow, or permit any waste generated outside the mine to be received at the mine for storage, treatment, processing, or disposal.

Tailings Management

(E6-1) Tailings must be managed in accordance with procedures contained within the current plan of operations. These procedures must include provisions for:

(a) Containment of tailings in accordance with design plans for each storage facility.

(b) The management of seepage and leachates both during operation and post closure.

(c) The control of fugitive emissions to air.

(d) Rehabilitation strategy which meets the rehabilitation objectives specified in Schedule F; and

(e) Monitoring of rehabilitation, research and/or trials to verify the requirements and methods for decommissioning and final rehabilitation of tailings, including the prevention and management of acid drainage, erosion minimisation and establishment of vegetation cover.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Land

General

(F1-1) Contaminants that will or may cause environmental harm must not be directly or indirectly released to land except as permitted under this environmental authority.

(F1-2) 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.

(F1-3) The holder of this environmental authority must develop and submit to the administering authority a plan for the remediation or processing of the scats stockpile by 30 October 2013.

Rehabilitation landform criteria

(F2-1) Land disturbed by mining must be rehabilitated in accordance with Schedule F - Table 1 (Rehabilitation Requirements).

Schedule F – Table F1 Rehabilitation Requirements

Mine Domain and tenure	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
ML10144	New Northern Tailings Storage Facility	Safe, non-polluting, stable and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014.	To be provided in the PMLUP by 30 June 2014
ML10144	NAF Oxide Stockpile	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	PAF Oxide Stockpile	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014.	To be provided in the PMLUP by 30 June 2014
ML10144	Workshop, Office, Fuel storage Roads & Tracks	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014

Mine Domain and tenure	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
ML10144	Plum Tree Creek Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Old Northern Tailings Storage Facility	Safe, non-polluting, Stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Raw Water Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Scats Stockpile	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Northern Waste Rock Dump	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Pit	Safe, non-polluting, and stable.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Water Treatment Pond	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Heap Leach Stockpile	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014

Mine Domain and tenure	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
ML10144	Low Grade Stockpile	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144, ML10172, ML10173.	Eastern Waste Rock Dump	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Southern Waste Rock Dump	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Mount Hope Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Mount Hope Extension Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Supergene Stormwater Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Mt Mawe Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Southern Tailings Storage Facility	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014

Mine Domain and tenure	Mine Feature Name	Rehabilitation Goal	Rehabilitation Objectives	Indicators	Completion Criteria
ML10144	Lower Settlement Dam	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2014	To be provided in the PMLUP by 30 June 2014
ML10144	Quarry	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by 30 June 2023	To be provided in the PMLUP by 30 June 2023
ML10144	Northern Borrow Pit	Safe, non-polluting, stable, and self-sustaining.	In accordance with condition (F2-4) and the post mine land use plan.	To be provided in the PMLUP by30 June 2023.	To be provided in the PMLUP by 30 June 2023.

(F2-2) Progressive rehabilitation must commence when operational areas become available in accordance with the plan of operations.

(F2-3) Rehabilitated areas must be managed to minimise the proliferation of species not consistent with rehabilitation objectives.

(F2-4) All land subject to mining activities must be rehabilitated to:

(a) a stable landform and with a self-sustaining vegetation cover and species that are similar to adjoining undisturbed areas.

(b) a safe landform, which is non-polluting, geo-chemically and geo-technically stable.

(c) ensure that all land is reinstated to the pre-disturbed land use and suitability class (Land Suitability Assessment Techniques).

(d) ensure that the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance by mining activities; and

(e) ensure that the water quality of any residual void or water bodies constructed by mining activities does not have potential to cause environmental harm.

(F2-5) Maintenance of rehabilitated areas must take place to ensure and demonstrate:

(a) stability of landforms.

(b) erosion control measures remain effective.

(c) stormwater runoff and seepage from rehabilitated areas does not negatively affect the environmental values of any waters.

(d) plants show healthy growth and recruitment is occurring; and

(e) rehabilitated areas are free of any declared pest plants.

(F2-6) Rehabilitation can be considered successful when:

(a) the site can be managed for its designated land-use (e.g., similar to that of surrounding undisturbed areas).

(b) the rehabilitation is carried out in accordance with the goals, objectives indicators and completion criteria as specified in Schedule F – Table F1 and in the Post Mine Land Use Plan; and

(c) written agreement is obtained from the landowner/holder and administering authority.

Topsoil

(F3-1) Topsoil and subsoil stockpiles must be managed to ensure stability and minimise the release contaminants. Measures must include:

(a) vegetating stockpiles.

(b) minimising the height of stockpiles: and

(c) re-using stockpiles as soon as possible.

Post Mine Land Use Plan

(F4-1) The holder of this environmental authority must develop and submit to the administering authority by 30 June 2014 a Post Mine Land Use Plan (PMLUP) with the Plan of Operations and update the plan with each subsequent Plan of Operations. The PMLUP must describe how the rehabilitation objectives in Schedule F - Table F1 (Rehabilitation Requirements) will be achieved. The Post Mine Land Use Plan must include:

a) schematic representation of final landform inclusive of drainage features; and

b) slope designs; and

c) cover design; and

d) drainage design; and

e) erosion controls proposed on reformed land; and

f) description of experimental design for monitoring of analogue and rehabilitated areas inclusive of statistical design; and

g) proposed revegetation criteria including:

   (i) species diversity, abundance, and composition,

   (ii) projective cover,

   (iii) dry matter production and

   (iv) stocking rates to ensure self-sustaining vegetation is maintained

h) proposed revegetation methods inclusive of plant species selection, re-profiling, respreading soil, soil ameliorants/amendments, surface preparation and method of propagation; and

i) materials balance including available topsoil and low permeability capping material; and

j) research program and associated milestones.

k) geotechnical, geochemical, and hydrological studies.

l) chemical, physical, and biological properties of soil and water.

m) clear objectives and success criteria for each land unit including establishment in accordance with outcomes stipulated in the Administering Authority's Guideline for *Rehabilitation Requirements for Mining Projects*.

n) measurable completion criteria for each rehabilitation indicator (for each land unit) that enables determination of rehabilitation success for each disturbance type (or land unit).

o) rehabilitation monitoring program.

Rehabilitation Monitoring Program

(F5-1) A rehabilitation monitoring program must be developed and be implemented on commencement of rehabilitation identified in Schedule F – Table F1(Rehabilitation Requirements) by a person nominated by the holder of this environmental authority possessing appropriate qualifications and experience in the field of mine site rehabilitation.

(F5-2) The holder of this environmental authority must conduct rehabilitation monitoring in accordance with the program developed in Condition (F5-1) 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.

(F5-3) Verification of rehabilitation success is to be carried out for each domain. Monitoring must be carried out for each domain at a minimum sampling intensity of 1:15,000 and must include sufficient replication to enable statistical analysis of results at an acceptable power.

Pest management

(F6-1) In carrying out the mining activities the holder of this environmental authority must develop and implement an effective pest management program by 28 February 2014 that includes but is not limited to the following:

(a) identification of pest species and infestation areas.

(b) prevents and/or minimises the introduction and/or spread of pests; and

(c) control and management of pest outbreaks as a result of mining activities including measures to ensure that all vehicle movements are controlled to prevent the spread of declared weeds; and

(d) strategies to prevent introduction of declared weeds to the mine site and surrounding areas.

(F6-2) A copy of the pest management program must be made available to the administering authority on request.

Infrastructure

(F7-1) All infrastructure, mining equipment and processing plant constructed by or for the environmental authority holder during the mining activities including water storage structures must be removed from the site prior to mining lease surrender, except where agreed to in writing by the post mining landholder.

Contaminated Land

(F8-1) Upon decommissioning the environmental authority holder must undertake a contaminated land assessment / investigation of the licensed place in accordance with the Administering Authority Guidelines for the Assessment & Management of Contaminated Land in Queensland.

Residual Void Outcome

(F9-1) 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.

(F9-2) Mining voids must be managed during the operation and decommissioning phases by consideration of the following:

(a) limiting sulphide exposures in void walls; and

(b) capping of sulphide exposures in void base; and

(c) limiting period of exposure of sulphides in void walls and base to oxidising conditions; and

(d) managing catchment into the void; and

(e) geo-technical stability of final void.

(F9-3) Decommissioning strategies for the final voids must be provided in the Plan of Operations including the following information:

(a) final potential wall and base rock exposure quality in terms of acid producing potential and levels of environmentally relevant salts and metals; and

(b) expected periods of exposure for wall and base rock with acid producing potential; and

(c) management options for maximising final void water quality; and

(d) assessment of potential final void water quality.

(F9-4) Decommissioning strategies for the final voids must be updated with each update of the Plan of Operations.

Post Closure Management Plan

(F10-1) A Post Closure Management Plan for the site must be prepared by 30 June 2014 and implemented for a nominal period of:

(a) At least thirty (30) years following final production on site; or

(b) A shorter period if the site is proven to be geo-technically and geo-chemically stable and it can be demonstrated to the satisfaction of the administering authority that no release of contaminants from the site will result in environmental harm and be prepared at least 6 months prior to final production onsite.

(F10-2) 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.

Storage and Handling of Flammable and Combustible Liquids

(F11-1) All explosives, hazardous chemicals, corrosive substances, toxic substances, gases, dangerous

goods, flammable, and combustible liquids must be stored and handled in accordance with the relevant Australian Standard where such is available.

(F11-2) Notwithstanding the requirements of any Australian Standard, any liquids stored on site that have the potential to cause environmental harm must be stored in or serviced by an effective containment system that is impervious to the materials stored and managed to prevent the release of liquids to waters or land. Where no relevant Australian Standard is available, the following must be applied:

(a) storage tanks must be bunded so that the capacity and construction of the bund is sufficient to contain at least 110% of a single storage tank or 100% of the largest storage tank plus 10% of the second largest storage tank in multiple storage areas; and

(b) All chemical product drum storages must be bunded so that the capacity of the bund is sufficient to contain at least 100% of the maximum design storage volume within the bund.

(F11-3) All containment systems for chemicals and flammable or combustible liquids must be designed to minimise rainfall collection within the system.

(F11-4) Spillage of any contaminant must be contained and rectified to prevent environmental harm.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Community

Complaint response

(G1-1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed, and actions taken. This information must be made available for inspection by the administering authority on request.

Complaints and Community

(G2-1) 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.

(G2-2) Information required in G2-1 must be available for inspection by the administering authority on request.

(G2-3) When requested by the administering authority, the environmental authority holder must undertake relevant specified monitoring within a 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 harm. 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.

(G2-4) The holder of this environmental authority must establish, promote, and maintain easily accessible lines of communication between residents, relevant stakeholders, and landowners to ensure that social impacts are identified and managed.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Dams

Assessment of Hazard Category

(H1-1) The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* at the following times:

(a) prior to the design and construction of the structure, if it is not an existing structure; or

(b) if it is an existing structure, prior to the adoption of this schedule; or

(c) prior to any change in its purpose or the nature of its stored contents.

(H1-2) A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.

(H1-3) Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

Design and Construction of a Regulated Structure

(H2-1) Conditions (H2-2) to (H2-6) inclusive do not apply to existing structures.

(H2-2) All regulated structures must be designed by, and constructed under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

(H2-3) Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.

(H2-4) Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* and must be recorded in the Regulated Dams/Levees register.

(H2-5) Regulated structures must:

(a) be designed and constructed in accordance with and conform to the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

(b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of:

i) floodwaters from entering the regulated dam from any watercourse or drainage line; and

ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line.

(c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.

(H2-6) Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:

(a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure.

(b) construction of the regulated structure is in accordance with the design plan.

Operation of a regulated structure

(H3-1) Operation of a regulated structure, except for an existing structure, is prohibited unless:

a) the holder has submitted to the administering authority:

(i) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition (H2-3), and

(ii) a set of 'as constructed' drawings and specifications, and

(iii) certification of those 'as constructed drawings and specifications' in accordance with condition (H2-6), and

(iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan.

(v) the requirements of this authority relating to the construction of the regulated structure have been met.

(vi) the holder has entered the details required under this authority, into a Register of Regulated Dams; and

(vii) there is a current operational plan for the regulated structures.

(H3-2) For existing structures that are regulated structures:

(a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and

(b) There must be a current operational plan for the existing structures.

(H3-3) Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.

Mandatory Reporting Level

(H4-1) Conditions (H4-2) to (H4-5) inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.

(H4-2) The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.

(H4-3) The holder must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.

(H4-4) The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.

(H4-5) The holder must record any changes to the MRL in the Register of Regulated Structures.

Design Storage Allowance

(H5-1) The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.

(H5-2) By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).

(H5-3) The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

Annual Inspection Report

(H6-1) Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.

(H6-2) At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.

(H6-3) The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

(H6-4) The holder must:

(a) Within 20 business days of receipt of the annual inspection report, provide to the administering authority:

(i) The recommendations section of the annual inspection report; and

(ii) If applicable, any actions being taken in response to those recommendations; and

(b) If, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.

Note: Please note that for some model conditions, such as model conditions for dams associated with a resource activity - non mining activity, the notification requirements may be located in a separate part of the conditions of an environmental authority (e.g., under notification requirement conditions).

Transfer arrangements

(H7-1) The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.

Decommissioning and Rehabilitation

(H8-1) Dams must not be abandoned but be either:

(a) decommissioned and rehabilitated to achieve compliance with condition (H8-2); or

(b) be left in-situ for a beneficial use(s) provided that:

(i) it no longer contains contaminants that will migrate into the environment; and

(ii) it contains water of a quality that is demonstrated to be suitable for its intended beneficial use(s); and

(iii) the administering authority, the holder of the environmental authority and the landholder agree in writing that the dam will be used by the landholder following the cessation of the environmentally relevant activity(ies).

(H8-2) After decommissioning, all significantly disturbed land caused by the carrying out of the environmentally relevant activity(ies) must be rehabilitated to meet the following final acceptance criteria:

(a) the landform is safe for humans and fauna.

(b) the landform is stable with no subsidence or erosion gullies for at least three (3) years.

(c) any contaminated land (e.g., contaminated soils) is remediated and rehabilitated.

(d) not allowing for acid mine drainage; or

(e) there is no ongoing contamination to waters (including groundwater).

(f) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance is treated to prevent or minimise environmental harm in accordance with the Instructions for the treatment and management of acid sulfate soils (2001).

(g) all significantly disturbed land is reinstated to the pre-disturbed soil suitability class.

(h) for land that is not being cultivated by the landholder:

(i) groundcover, that is not a declared pest species is established and self-sustaining

(ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining, and

(iii) the maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the petroleum activity(ies).

(i) for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of petroleum activities being completed.

Register of Regulated Dams

(H9-1) A Register of Regulated Dams must be established and maintained by the holder for each regulated dam.

(H9-2) The holder must provisionally enter the required information in the Register of Regulated Dams when a design plan for a regulated dam is submitted to the administering authority.

(H9-3) The holder must make a final entry of the required information in the Register of Regulated Dams once compliance with condition (H3-1) and (H3-2) has been achieved.

(H9-4) The holder must ensure that the information contained in the Register of Regulated Dams is current and complete on any given day.

(H9-5) All entries in the Register of Regulated Dams must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.

(H9-6) The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Dams, in the electronic format required by the administering authority.

Transitional arrangements

(H10-1) All existing structures that have not been assessed in accordance with either the Manual or the former Manual for Assessing Hazard Categories and Hydraulic Performance of Dams must be assessed and certified in accordance with the Manual within 6 months of amendment of the authority adopting this schedule.

(H10-2) All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table 1 (Transitional requirements for existing structures),

depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.

(H10-3) Table 1 ceases to apply for a structure once any of the following events has occurred:

(a) It has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or

(b) It has been decommissioned; or

(c) It has been certified as no longer being assessed as a regulated structure.

(H10-4) Certification of the transitional assessment required by (H10-1) and (H10-2) (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.

Schedule H – Table 1 (Transitional hydraulic performance requirements for existing structures)

Transition period required for existing structures to achieve the requirements of the *Manual for Assessing Consequence Categories and Hydraulic Performance of Dams*			
Compliance with criteria	**High**	**Significant**	**Low**
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years.
>70%-≤90%	Within 7 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases	Within 10 years, unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years.
>50%-≤70%	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years.
≤50%	Within 5 years or as per compliance requirements (e.g., TEP timing)	Within 5 years or as per compliance requirements (e.g., TEP timing)	Review consequence assessment every 5 years.

END OF CONDITIONS FOR SCHEDULE H

Schedule I: Definitions

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the completion of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival, and succession.
- vegetation productivity, sustained growth, and structure development.
- fauna colonisation and habitat development.
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes.
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass, and respiration.
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development.
- resilience of vegetation to disease, insect attack, drought, and fire.
- vegetation water uses and effects on ground water levels and catchment yields.

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

"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 taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment:

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

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

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

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

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

"certification" means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this manual, including design plans, 'as constructed' drawings and specifications, construction, operation, or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

"certifying, **certify or certified"** have a corresponding meaning as 'certification'.

"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.

"competent person" means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

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

"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 the documentation required to describe the physical dimensions of the dam, the materials, and standards to be used for construction of the dam, and the criteria to be used for operating the dam and includes a plan that manages an integrated containment system. The documents must include all investigation and design reports, drawings, and specifications sufficient to hand to a contractor for construction, and planned decommissioning and rehabilitation outcomes; so as to address all hazard scenarios that would be identified by a properly conducted hazard assessment for the structure. Documentation must be such that a 'suitable qualified and experience person' could conduct an independent review without seeking further information from the designer

"design storage allowance or DSA" means an available volume, estimated in accordance with the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by the Department of Environment and Resource Management, that 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.

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

"flow event" means a flow of water when measured at monitoring points listed in Schedule C – Table 7 (Receiving Water and Downstream Monitoring Points)

"foreseeable future" is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150-year period

"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.

"hazardous waste" means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

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

"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 Hazard Categories and Hydraulic Performance of Dams*.

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

"low hazard dam" means any dam that is not a high or significant hazard category as assessed using the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams.*

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include facilities required for the long-term management of mining impacts or the protection of potential resources. Such facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings or other structures whose ownership can be transferred, and which have a residual beneficial use for the next owner of the operational land or the background landowner.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

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

"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.

"mandatory reporting level" means the volume below the spillway crest, equivalent to the lower of the AEP, 72-hour storm or the AEP wave allowance (AEP is the annual exceedance probability).

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

"mineral" means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—

a) clay if mined for use for its ceramic properties, kaolin, and bentonite.

b) foundry sand.

c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced, or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from.

d) limestone if mined for use for its chemical properties.

e) marble.

f) mineral oil or gas extracted or produced from shale or coal by in situ processes.

g) peat.

h) salt including brine.

i) shale from which mineral oil may be extracted or produced.

j) silica, including silica sand, if mined for use for its chemical properties.

k) rock mined in block or slab form for building or monumental purposes.

    a. but does not include—

l) living matter.

m) petroleum within the meaning of the Petroleum Act 1923.

n) soil, sand, gravel, or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form.

o) water.

"NATA" means National Association of Testing Authorities, Australia

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

"non-standard" means a mining operation that if in the opinion of the administering authority does not have a low risk of serious environmental harm and the activities can not comply with the criteria for standard mining activities prescribed in Schedule 1A of the *Environmental Protection Regulation 1998*. The standard mining activity trigger criteria are as follows;

- the mining activities do not or will not cause more than 10 ha of land to be significantly disturbed at any one time.
- the mining activities do not or will not cause more than 5 ha of land to be significantly disturbed at any one time.
    - in a riverine area.
    - because of mine workings.
- the mining activities are not or will not be carried out in, or within 2 km of a Category A Environmentally Sensitive Area.
- the mining activities are not or will not be carried out in, or within 1 km of a Category B Environmentally Sensitive Area.
- the mining activities do not include a level 1 environmentally relevant activity
- no more than 20 persons are carrying out or will, at any one time, carry out the mining activities.

"NTU" means nephelometric turbidity units

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

"operational plan" for a dam means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period. The operational plan as defined herein may form part of a plan of operations or plan otherwise required in legislation.

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

"protected area" means - a protected area under the *Nature Conservation Act 1992*; or

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

"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.

"reference site" (or analogue site) may reflect the original location, adjacent area, or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"regulated dam" means any dam in the significant or high hazard category as assessed using the *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams* published by the administering 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.

"release event" means a release from a release point listed in Schedule C- Table 1 (Release Points).

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

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"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
- a motel, hotel, or hostel; 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 employee's accommodation or public roads.

"significant disturbance" – includes land

a) if it is contaminated land; or

b) it has been disturbed and human intervention is needed to rehabilitate it.

   i. to a state required under the relevant environmental authority; or

   ii. if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Some examples of disturbed land include:

- areas where soil has been compacted, removed, covered, exposed, or stockpiled.
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)

- areas where land use suitability or capability has been diminished.
- areas within a watercourse, waterway, wetland, or lake where mining activities occur.
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases.
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g., roads or tracks which provide access to the mining lease).
- areas previously significantly disturbed which have achieved the rehabilitation outcomes.
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions).
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA.
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

“spillway” means passage or outlet from the dam through which surplus water flows.

“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.

"suitably qualified and experienced person" in relation to dams means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, or at the relevant time holds a 'deemed registration' within the meaning of the *Mutual Recognition (Queensland) Act 1992*; and has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry, and environmental impact of dams; and

b) a total of five years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology, and geochemistry, and

c) a total of five years of suitable experience and demonstrated expertise each, in three of the following categories:

   i. investigation and design of dams.

   ii. Construction, operation, and maintenance of dams.

iii. hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.

iv. hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.

v. hydrogeology with particular reference to seepage, groundwater.

vi. solute transport processes and monitoring thereof.

vii. dam safety.

"system design plan" means a plan that manages an integrated containment system that shares the required DSA volume across the integrated containment system.

"trivial harm" means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than $5,000.

"watercourse" has the same meaning given in the *Water Act 2000*

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

"**water release event**" means release of any waters that are or maybe contaminated by the mining activity.

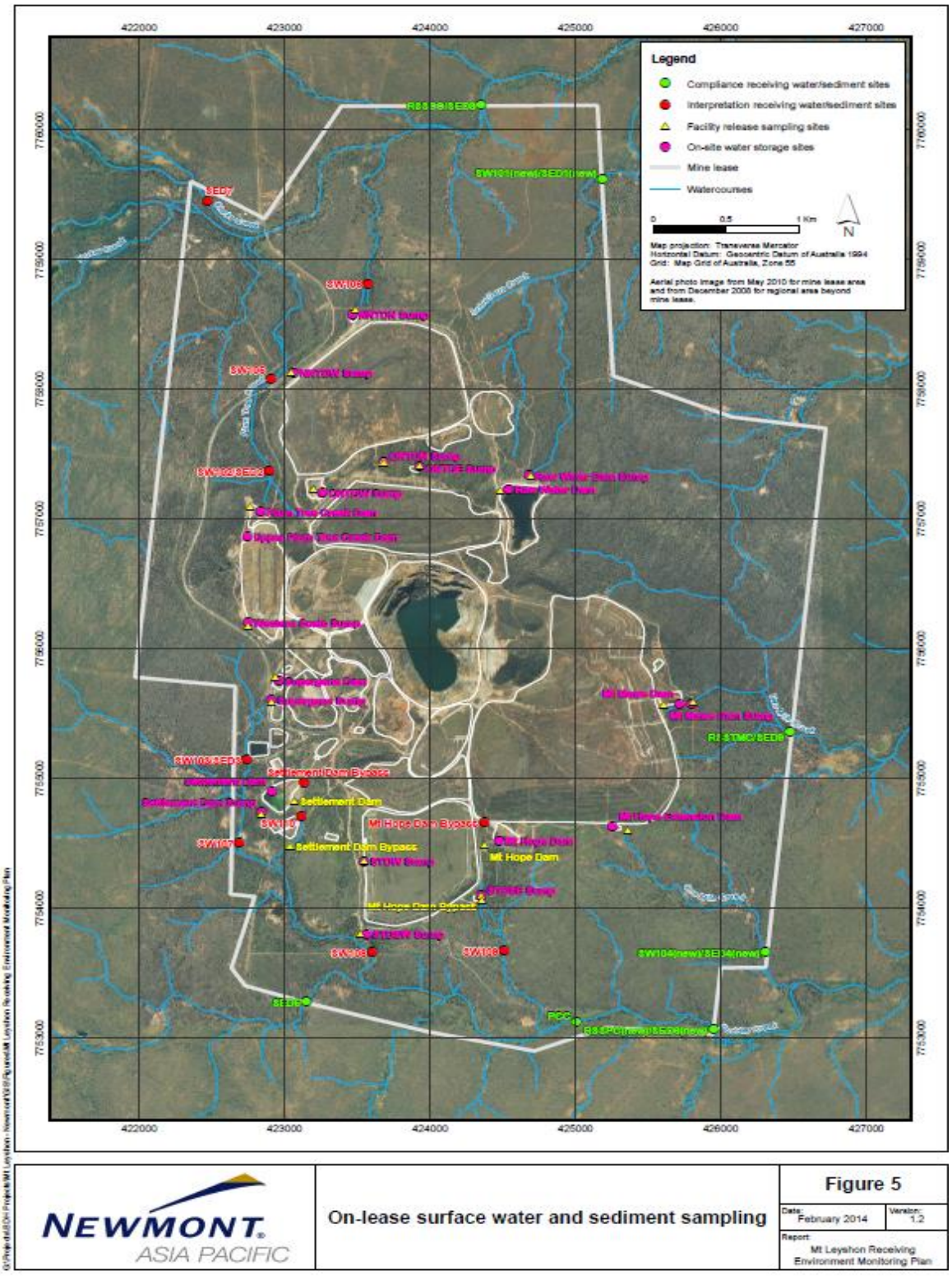
"water year" means the 12-month period from 1 July to 30 June.

"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 30 May in the following year inclusive.

END OF SCHEDULE I

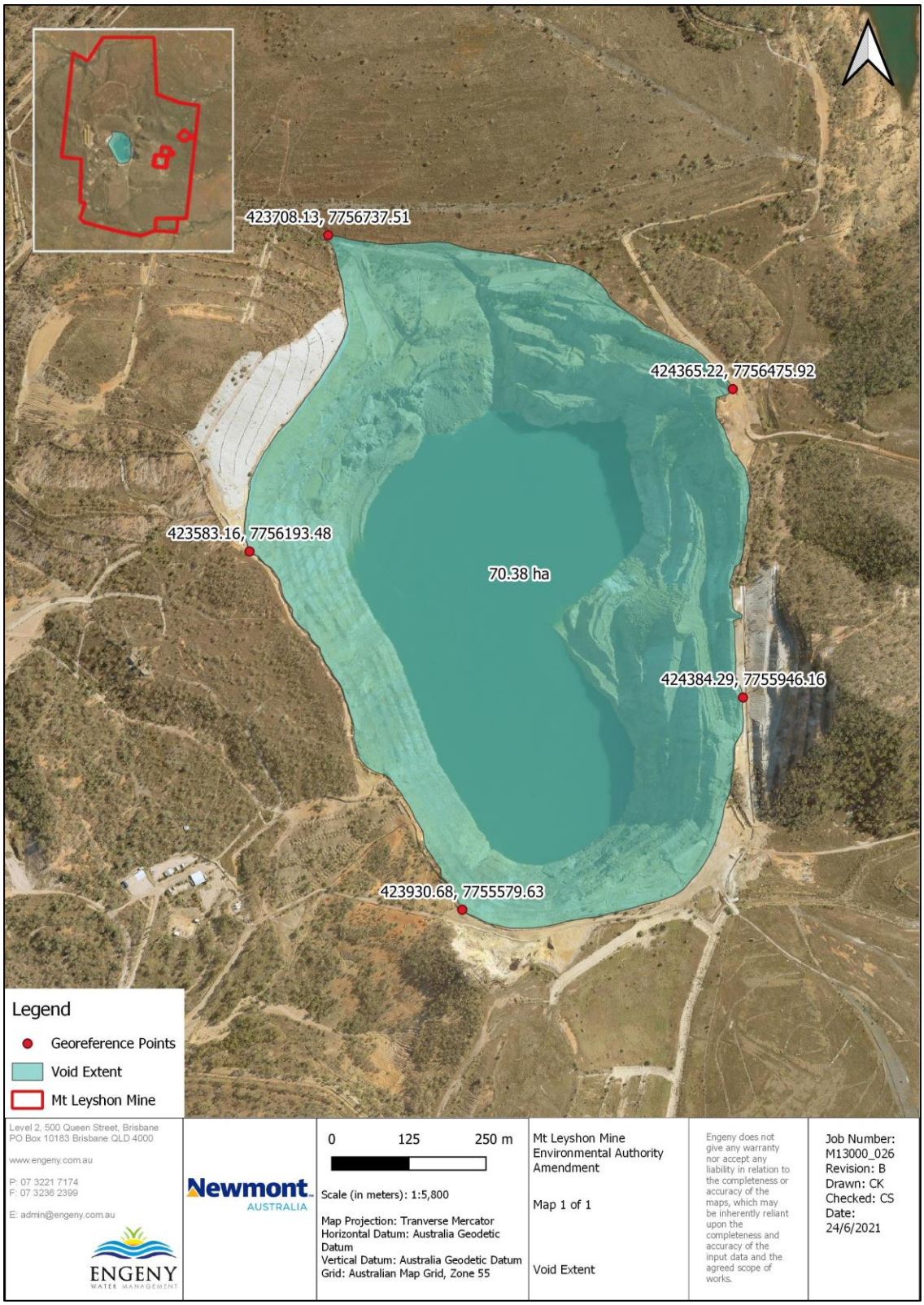
Schedule J – Maps

Figure 1. Release Points



NEWMONT ASIA PACIFIC	On-lease surface water and sediment sampling	Figure 5 Date: February 2014 Version: 1.2 Report: Mt Leyshon Receiving Environment Monitoring Plan

Figure 2. Void Extent



END OF SCHEDULE J

END OF ENVIRONMENTAL AUTHORITY