Permit

Environmental Protection Act 1994

Environmental authority EPML00771913

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

Environmental authority number: EPML00771913

Environmental authority takes effect on 24 May 2024

The anniversary date of this environmental authority is 1 October each year.

Environmental authority holder(s)

Name(s)	Registered address
Straits Gold Pty Ltd	Endeavour Corporate, Suite 8, 7 The Esplanade MOUNT PLEASANT WA 6153

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Schedule 3 - 16 - Mining gold ore Ancillary 31 - Mineral processing - 2(a) - Processing, in a year, the following quantities of mineral products, other than coke - 1000t to 100,000t Ancillary 60 - Waste disposal - 1(d) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - more than 200,000t	ML1095; ML1096

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).

Mobile and temporary activities

If you operate a mobile and temporary environmentally relevant activity (ERA), other than regulated waste transport, you are required to maintain a work diary. You must:

- use the approved form for a work diary (ESR/2015/1696);
- keep the work diary records for 2 years after the last entry;
- inform the administering authority within 7 days of the work diary being lost or stolen;
- record the information required in the work diary for each location within 1 day of leaving the location.

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

- the presence of, or happening of an event involving, a hazardous contaminant on the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- if the land is contaminated land – a change in the condition of the land that is causing, or is reasonably likely to cause, serious or material environmental harm (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 land (notice must be given within 20 business days).

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

Take effect

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

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

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

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

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

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

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

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

T.Gibbs	24 May 2024
Signature	Date

Teale Gibbs
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Minerals Business Centre
PO Box 7230, Cairns QLD 4870
Phone: (07) 4222 5352
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Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Conditions of environmental authority

- Schedule A - General
- Schedule B - Air
- Schedule C - Water
- Schedule D - Noise & Vibration
- Schedule E - Waste
- Schedule F - Land & Rehabilitation
- Schedule G - Dams
- Schedule H - Community
- Schedule I - Definitions
- Schedule J - Maps and Figures

Schedule A - General

(A1-1) The environmental authority holder must ensure that the activity is carried out in accordance with Schedule A - Table 1 (Authorised disturbance) and Schedule J - Figure 2.

Schedule A - Table 1 (Authorised disturbance)

Tenure ID	Disturbance type	Associated infrastructure	Location (GDA94, MGA Zone 55)		Maximum surface area (ha)
			Easting	Northing	
ML1095	Backfilled pit	South Pit	497343	7644713	3.2
	Tailings dam	Cell A	499873	7647209	113
		Cell B	500484	7647218	
		TSF Spillway	500141	7646720	
		TSF Embankment	500152	7647221	
	Stockpile area	Topsoil stockpile	497904 498331 498065 498098 499679 499579 499682 497575 497744 498106	7644911 7644992 7645980 7646003 7646552 7646404 7646455 7645969 7646831 7646923	8.3
	Run-off dam	Mine Water Dam	497886	7645914	15.3
	ROM pad	ROM Pad	497861	7645465	5.8
	Open pit	Main Pit	496913	7645020	21
		East Hill Pit	497682	7645134	
	Infrastructure	Tailings Water Return Dam	499512	7646853	116.5
		Water Storage Dam	497981	7646581	
		Water harvest trench	497236	7646107	
		Infrastructure area (including processing plant)	498074	7645569	
		Laydown	498161 497707	7645009 7644472	
		Landfill area	498143	7646110	
		Airstrip	498870	7647361	
		Core yard	498431	7645103	
		Roads and tracks	Various		
		Miscellaneous footprint (cleared areas)	498115 497655	7645449 7645408	
	Heap leach	Heap Leach Pad (HLP)	498122	7645200	20.3
		HLP stormwater pond	498104	7644957	
		Pregnant pond and barren pond	498107	7645045	

Tenure ID	Disturbance type	Associated infrastructure	Location (GDA94, MGA Zone 55)		Maximum surface area (ha)
			Easting	Northing	
	Borrow pit	Main pit water management bund borrow pit	496990	7644731	36.6
		Flood Plain Borrow Pit	496874	7645318	
		Other Borrow Pits	Various		
	Exploration	Exploration areas	Various		4.5
	Water management	Main pit water management bund	496892	7645016	2.7
ML1096	Village infrastructure	Village infrastructure	500968	7646430	9.1
	Infrastructure	Refer to Roads and tracks			
	Tailings dam	Refer to Tailings Dam			

Financial assurance

(A1-2) The holder of this environmental authority must provide to the administering authority a financial assurance of an amount and in a form acceptable to the administering authority in accordance with the most recent edition of the administering authority's Guideline – *Calculating financial assurance for mining projects*, before the proposed mining activities commence.

Note: The calculation of financial assurance for condition A10 must be in accordance with the Guideline – Calculating financial assurance for mining projects *and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula:*
(Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required)

(A1-3) The financial assurance must include the cost of rehabilitating pre-existing disturbances where the transfer or replacement of a tenement has maintained continuity of tenure since the disturbance was caused or redisturbed.

(A1-4) The amount of financial assurance may be reviewed by the administering authority when a plan of operations is amended or replaced, the authority is amended or new information is obtained from an audit or other sources.

(A1-5) The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance will be required.

Note: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Maintenance of measures, plant and equipment

(A2-1) The holder of this environmental authority must:

(a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;
(b) maintain such measures, plant and equipment in a proper and efficient condition;
(c) operate such measures, plant and equipment in a proper and efficient manner; and
(d) ensure all instruments and devices used for the measurement or monitoring of any parameter

under any condition of this environmental authority are calibrated, and appropriately operated and maintained.

(A2-2) 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.

Monitoring

(A3-1) Record, compile and keep for a minimum of five 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.

(A3-2) Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

Storage and handling of flammable and combustible liquids

(A4-1) Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with Section 5.9 of AS 1940 - Storage and Handling of Flammable and Combustible Liquids of 1993.

Definitions

(A5-1) Words and phrases used throughout this environmental authority are defined in the Definitions section of this authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the Environmental Protection Act 1994, its Regulations and Environmental Protection Policies must be used.

Emergency Response / Contingency

(A6-1) An emergency response/contingency plan must be developed and implemented within 12 months of the date of approval of this environmental authority to respond to emergency events and incidents.

(A6-2) The emergency response/contingency plan required under condition A6-1 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 restore 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;
(g) Training of staff that will be called upon to respond to incidents to enable them to effectively respond;
(h) Timely and accurate reporting of the circumstance and nature of incidents to the administering authority in accordance with conditions of this environmental authority;
(i) Procedures for accessing monitoring points during incidents; and
(j) Procedures to notify any potentially impacted stakeholder who may be affected by the event.

Notification of Emergencies, Incidents and Exceptions

(A7-1) The holder of this environmental authority must notify the administering authority by telephone and email promptly but within twenty-four (24) hours, after becoming aware of any emergency, incident or release 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.

(A7-2) The holder of this environmental authority must notify the administering authority by telephone, email or facsimile as soon as practicable but within forty-eight (48) hours, after becoming aware of any monitoring result that demonstrates an exceedence of any approval limit.

(A7-3) The notification 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 release;
(d) The date and time of the emergency. incident or release;
(e) The time the holder of the environmental authority became aware of the emergency, incident or release;
(f) The estimated quantity and type of substances involved in the emergency, incident or release;
(g) The actual or potential cause of the emergency, incident or release;
(h) A description of the nature and effects of the emergency, incident or release including environmental risks, and any risks to to environmental values;
(i) Any sampling conducted or proposed, relevant to the emergency, incident or release;
(j) Immediate actions taken to prevent or mitigate any further environmental harm caused by the emergency, incident or release; and
(k) What notification of stakeholders who may be affected by the emergency, incident or release has occurred/is being undertaken.

(A7-4) The holder of this environmental authority must notify any potentially impacted stakeholder by telephone or facsimile immediately after becoming aware of any emergency, incident or release that has the potential to impact on environmental values or breaches any condition of this environmental authority concerning releases of contaminants to the environment.

(A7-5) The notification in condition (A7-4) must include the following:

(a) The location of the emergency, incident or release;
(b) The date and time of the emergency, incident or release;
(c) The estimated quantity and type of any substances involved in the emergency, incident or release;
(d) The potential impacts to environmental values caused by the emergency, incident or release; and
(e) Where there is potential impact on environmental values, precautionary measures that should be taken.

(A7-6) Within ten (10) business days following the initial notification of an emergency, incident or release, or receipt of monitoring results, whichever is the latter, further written advice must be provided to the administering authority, including the following:

(a) Results and interpretation of any samples taken and analysed;
(b) Outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and
(c) Proposed actions to prevent a recurrence of the emergency, incident or release.

END OF CONDITIONS FOR SCHEDULE A

Schedule B - Air

THERE ARE NO CONDITIONS PRESCRIBED FOR THIS SCHEDULE.

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 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.

(C1-3) All determinations of water quality must be:

(a) performed by a person or body possessing appropriate experience and qualifications to perform the required measurements;
(b) made in accordance with methods prescribed in the latest edition of the Administering Authority's monitoring and sampling manual;
(c) collected from the monitoring locations identified within this environmental authority, within 2 hours of each other where possible;
(d) carried out on representative samples; and
(e) for laboratory determinations, carried out in a laboratory accredited (e.g. NATA) for the method of analysis being used.

Contaminant Release to Waters

(C2-1) The release of contaminants to waters must only occur from the release points specified in Schedule C - Table 1 (Contaminant Release Points) and depicted in Schedule J - Figure 1.

Schedule C - Table 1 (Contaminant Release Points)

Release Point	Easting GDA94	Northing GDA94	Description of Release Point	Monitoring Point	Receiving Waters Description
MP1	496790	7645177	Northwest Main Pit Dam Spillway Overflow	Dam Spillway	Suttor River
MP2	497191	7644940	Southeast Main Pit Dam Spillway Overflow	Dam Spillway	Suttor River

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

Schedule C - Table 2 (Contaminant Release Limits)

Parameter	Units	Limit type	Limit	Monitoring Frequency
pH	pH Unit	Range	6 – 9	A first flush sample at commencement of release A sample within 48 hours of the commencement of release Weekly sampling thereafter until the release ceases
EC	µS/cm	Maximum	1000[2] or 95th percentile[3] of reference, whichever is higher	
Sulfate	mg/L	Maximum	1000[1] or 95th percentile[3] of reference, whichever is higher	
Arsenic	mg/L	Maximum	0.5[1] or 95th percentile[3] of reference, whichever is higher	
Cadmium	mg/L	Maximum	0.01[1] or 95th percentile[3] of reference, whichever is higher	
Copper	mg/L	Maximum	0.5[1] or 95th percentile[3] of reference, whichever is higher	
Lead	mg/L	Maximum	0.1[1] or 95th percentile[3] of reference, whichever is higher	
Mercury	mg/L	Maximum	0.002[1] or 95th percentile[3] of reference, whichever is higher	
Molybdenum	mg/L	Maximum	0.05[1] or 95th percentile[3] of reference, whichever is higher	
Selenium	mg/L	Maximum	0.02[1] or 95th percentile[3] of reference, whichever is higher	
Zinc	mg/L	Maximum	20[1] or 95th percentile[3] of reference, whichever is higher	

1. Measured as a total unfiltered concentration and based on ANZECC (2000) stock water quality guidelines
2. DERM Scientific services, 2009
3. Where the 95th percentile of reference is exceeded and the reference site also exceeds the value during the same event, the value of the reference for the same event applies.

(C2-3) Waters potentially affected by the release of contaminants must be monitored at the locations specified in Schedule C - Table 3 (Release Monitoring Points) and identified on Schedule J – Figure 1 for each quality characteristic and at the frequency specified in Schedule C - Table 4 (Release Contaminant Trigger Levels).

Schedule C - Table 3 (Release Monitoring Points)

Monitoring Point	Easting GDA94	Northing GDA94	Description of Monitoring Point
Compliance Points			
SR1	496750	7645460	Monitoring point in the Suttor River at Suttor River causeway approximately 150 meters downstream of the MP1 contaminant release point
SR2	496820	7646759	Monitoring point in the Suttor River approximately 1.7 kilometres downstream of MP1 contaminant release point
Reference Points			
SR3a	496050	7644545	Monitoring point in Suttor River upstream of the main pit on the western side
SR3b	495734	7645032	Monitoring point in Suttor River upstream of the main pit on the western side. (Alternative monitoring point to SR3a to be used when access to SR3a is restricted due to flood waters)
SR4	498842	7645095	Monitoring point upstream of the main pit in Yandan Creek branch on the eastern side of the Suttor River

Schedule C - Table 4 (Release Contaminant Trigger Levels)

Quality Characteristic	Unit	Trigger Levels	Monitoring Frequency
pH	pH Unit	20th percentile[2,5] of reference or 6.0[4], whichever is lower. 80th percentile[2,5] of reference or 7.5[4], whichever is higher	A first flush sample at commencement of release A sample within 48 hours of the commencement of release Weekly sampling thereafter until the release ceases
EC	µS/cm	80th percentile[2,5] of reference or 250[4], whichever is higher	
Sulphate	µg/L	80th percentile[2,5] of reference	
Aluminium	µg/L	80th percentile[3,5] of reference or 55[4], whichever is higher	
Arsenic	µg/L	80th percentile[3,5] of reference or 13[4,6], whichever is higher	
Cadmium	µg/L	80th percentile[3,5] of reference or 0.2[4], whichever is higher	
Copper	µg/L	80th percentile[3,5] of reference or 1.4[4], whichever is higher	
Lead	µg/L	80th percentile[3,5] of reference or 3.4[4], whichever is higher	
Mercury	µg/L	80th percentile[3,5] of reference or 0.6[4], whichever is higher	
Selenium	µg/L	80th percentile[3,5] of reference or 11[4], whichever is higher	
Nickel	µg/L	80th percentile[3,5] of reference or 11[4], whichever is higher	
Zinc	µg/L	80th percentile[3,5] of reference or 8[4], whichever is higher	
Hardness[7]	mg/L	N/A	

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. An interim trigger value can be derived from ≥ 8 but ≤ 17 consecutive reference site samples, derived using the methodology described in the Queensland Water Quality Guidelines (2009).
3. For toxicants, trigger values are based on the 80th percentile of at least 10 and no more than 24 consecutive reference site samples, derived using the methodology described in the Queensland Water Quality Guidelines (2009).
4. Default trigger values from ANZECC (2000)
5. 20th, 80th and 95th percentiles are calculated using ANZECC (2000) methodology (section 7.4.4.1)
6. If arsenic (soluble) exceeds 13ug/L then speciation to As(III) and As(V) must be conducted. The As(III) and As(V) levels must not exceed the 80th percentile of reference site samples or the respective trigger level: As(III) – 24ug/L; As(V) – 13ug/L.
7. Hardness may be used to adjust trigger value for some metal toxicants. Hardness is defined as the sum of Calcium (Ca) and Magnesium (Mg) concentrations expressed as Calcium Carbonate ($CaCO_3$) in milligrams per litre (mg/L)

(C2-4) The release of contaminants to waters must not exceed the release limits stated in Schedule C - Table 2 (Contaminant Release Limits) for each quality characteristic.

(C2-5) If quality characteristics of the release, when measured at the contaminant release points specified in Schedule C - Table 1 (Contaminant Release Points), exceed any of the trigger levels specified in Schedule C -Table 4 (Release Contaminant Trigger Levels) during a release event, the holder of this environmental authority must compare the results measured during that release event at the monitoring points specified in Schedule C - Table 3 (Receiving Environment Monitoring Points) to the trigger values specified in Schedule 3 -Table 4 (Release Contaminant Trigger Levels) and:

(a) If the level of contaminants at all downstream compliance points is the same or a lower value than the trigger level value for the quality characteristic during the release event then no action is to be taken; or

(b) If the level of contaminants at all upstream reference points is the same or a higher value than the trigger level value for the quality characteristic during the release event then no action is to be taken; or

(c) If the level of contaminants at any downstream compliance site is greater than the trigger level value complete an investigation in accordance with the ANZECC & ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within 3 months, outlining:

(i) details of the investigations carried out; and

(ii) actions taken to prevent environmental harm.

Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with this condition, no further reporting is required for subsequent trigger events for that quality characteristic.

Water Storage Monitoring

(C3-1) Water storages stated in Schedule C - Table 5 (Water Storage Monitoring) and identified on Schedule J – Figure 1 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 (Water Storage Monitoring).

Schedule C - Table 5 (Water Storage Monitoring)

Water Storage Description	Monitoring Location	Easting GDA94	Northing GDA94	Frequency of Monitoring
Heap Leach Stormwater Pond	HLSP1	498141	7644897	Quarterly
East Hill Pit	EHP1	497674	7645142	
Mine Water Dam	MW1	497777	7646120	
Water Storage Dam	WS1	497612	7646474	
Tailings Return Dam	TRD1	499461	7646637	

(C3-2) In the event that waters storages defined in Schedule C - Table 5 (Water Storage Monitoring) exceed the contaminant limits defined in Schedule C - Table 6 (Onsite Water Storage Contaminant Limits), the holder of the environmental authority must implement measures, where practicable, to prevent access to waters by livestock.

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

Quality Characteristic	Test Value	Contaminant Limit[3]
pH (pH unit)	Range	Greater than 4, less than 9[2]
EC (µS/cm)	Maximum	5970[1]
Sulphate (mg/L)	Maximum	1000[1]
Aluminium (mg/L)	Maximum	5[1]
Arsenic (mg/L)	Maximum	0.5[1]
Cadmium (mg/L)	Maximum	0.01[1]
Copper (mg/L)	Maximum	1[1]
Lead (mg/L)	Maximum	0.1[1]
Nickel (mg/L	Maximum	1[1]
Zinc (mg/L)	Maximum	20[1]
WAD Cyanide (mg/L)	Maximum	50[4]

Notes:
[1]Contaminant limit based on ANZECC & ARMCANZ (2000) stock water quality guidelines.
[2]Page 4.2-15 of ANZECC & ARMCANZ (2000) "Soil and animal health will not generally be affected by water with pH in the range of 4-9".
[3]Total measurements (unfiltered) must be taken and analysed.
[4]International Cyanide Management Code For the Manufacture, Transport, and Use of Cyanide In the Production of Gold

Main Pit Water Cover

(C4-1) The depth of water in the main pit must be measured quarterly in order to ensure water depth within the pit is maintained greater than 160m AHD.

(C4-2) Water in the main pit must be monitored quarterly for the parameters and depth intervals defined in Schedule C – Table 7 (Main pit water quality parameters).

Schedule C - Table 7 (Main pit water quality parameters)

Parameter	Units	Depth intervals
pH		5m and 10m
Temperature	^{o}C	5m and 10m
Electrical Conductivity	uS/cm	5m and 10m
Salinity	Ppm	5m and 10m
Dissolved Oxygen	DO	5m and 10m
Oxidation Reduction Potential	mV / Eh	5m and 10m
Total Dissolved Solids	mg/L	10m
Sulfate	mg/L	10m
Arsenic	mg/L	10m
Cadmium	mg/L	10m
Copper	mg/L	10m
Lead	mg/L	10m
Mercury	mg/L	10m
Molybdenum	mg/L	10m
Selenium	mg/L	10m
Zinc	mg/L	10m

Stream Sediment

(C5-1) All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.

(C5-2) Sediment quality of receiving waters and reference waters must be monitored twice a year (once at the end of the wet season and once at the end of the dry season) at the monitoring locations defined in Schedule C - Table 8 (Sediment Monitoring Points) and identified on Schedule J – Figure 1 for the parameters defined in Schedule C - Table 9 (Stream Sediment Trigger and Contaminant Levels).

Schedule C - Table 8 (Sediment Monitoring Points)

Monitoring Point	Easting GDA94	Northing GDA94	Description of Monitoring Point
Compliance Points			
SR1	496750	7645460	Suttor River downstream sediment sampling location at Suttor River causeway approximately 150 meters downstream of the MP1 contaminant release point
SR2	496820	7646759	Northern boundary sediment sampling location located in the Suttor River approximately 1.7 kilometres downstream of MP1 contaminant release point
Reference Points			
SR3a	496050	7644545	Monitoring point in Suttor River upstream of the main pit on the western side
SR4	498842	7645095	Monitoring point upstream of the main pit in Yandan Creek branch on the eastern side of the Suttor River

(C5-3) If the stream sediment trigger limits defined in Schedule C – Table 9 (Stream Sediment Trigger and Contaminant Levels) are exceeded at the downstream compliance monitoring points defined in Schedule C - Table 8 (Sediment Monitoring Points) the holder of this environmental authority must compare the results of the downstream compliance point to the data from the upstream reference monitoring points defined in Schedule C - Table 8 (Sediment Monitoring Points) and:

(a) if the level of contaminants at the downstream compliance point does not exceed the reference monitoring point data, then no action is to be taken; or

(b) if the level of contaminants at the downstream compliance point is greater than the upstream reference monitoring site data, complete an investigation in accordance with the ANZECC & 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; and

(ii) actions taken to prevent environmental harm.

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

(C5-4) Releases of contaminants must not result in an exceedence of sediment contaminant limits stated in Schedule C - Table 9 (Stream Sediment Trigger and Contaminant Levels).

(C5-5) 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 9 (Stream Sediment Trigger and Contaminant Levels)

Parameter	Unit	Contaminant Limit	Trigger Level
Antimony	mg/kg	25[3] or 3 times the reference value	Reference value[1] or 2[2], whichever is higher.
Arsenic	mg/kg	70[3] or 3 times the reference value[1], whichever is higher	Reference value[1] or 20[2], whichever is higher.
Cadmium	mg/kg	10[3] or 3 times the reference value[1], whichever is higher	Reference value[1] or 1.5[3], whichever is higher.
Chromium	mg/kg	370[3] or 3 times the reference value[1], whichever is higher	Reference value[1] or 80[2], whichever is higher.
Copper	mg/kg	270[3] or 3 times the reference value[1], whichever is higher	Reference[1]or 65[2], whichever is higher.
Lead	mg/kg	220[3] or 3 times the reference value[1], whichever is higher	Reference value[1] or 50[2] whichever is higher.
Mercury	mg/kg	1[3] or 3 times the reference value[1], whichever is higher	Reference value[1] or 0.15[2] whichever is higher.
Nickel	mg/kg	52[3] or 3 times the reference value[1], whichever is higher.	Reference value[1]or 21[2], whichever is higher.
Zinc	mg/kg	410[3] or 3 times the reference value[1], whichever is higher	Reference value[1] or 200[2] or, whichever is higher.
Particle size distribution for interpretation purposes	N/A	N/A	N/A

1 Reference sites are the upstream sediment monitoring sites defined in Schedule C – Table 8 (Sediment Monitoring Points)

2 ANZECC (2000) Interim Sediment Quality Guidelines – low values based on total sediments

3 ANZECC (2000) Interim Sediment Quality Guidelines – high values based on total sediments

Sewage effluent

(C6-1) Sewage effluent from sewage treatment facilities must be evaporated and must not be directly or indirectly released from the sewage treatment plant to any watercourse.

Groundwater

(C7-1) The holder of the environmental authority must establish suitable reference bores for the establishment of background groundwater quality. Reference sites must:

(a) be selected in accordance with the ANZECC & ARMCANZ 2000 methodology

(b) be from the same bio-geographic and climatic region; and

(c) have similar geology, soil types and topography; and

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

(C7-2) Groundwater quality and level must be monitored at the locations and frequencies defined in Schedule C - Table 10 (Groundwater Monitoring Locations and Frequency) & Schedule J – Figure 3 for quality characteristics identified in Schedule C - Table 11 (Groundwater Contaminant and Trigger Limits).

(C7-3) If quality characteristics of groundwater from compliance bores identified in Schedule C - Table 10 (Groundwater Monitoring Locations and Frequency) exceed any of the trigger levels stated in Schedule C - Table 11 (Groundwater Contaminant and Trigger Limits), the holder of this environmental authority must compare the compliance monitoring bore results to the reference bore results and:

(a) if the level of contaminants at the compliance monitoring bore does not exceed the reference bore results, then no action is to be taken; and

(b) if the level of contaminants at the compliance monitoring bore is greater than the reference

bore results, complete an investigation in accordance with the ANZECC & ARMCANZ 2000, into the potential for environmental harm and provide a written report to the administering authority within 3 months, outlining:

(i) details of the investigations carried out; and

(ii) actions taken to prevent environmental harm.

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

(C7-4) Monitoring of groundwater from compliance bores identified in Schedule C - Table 10 (Groundwater Monitoring Locations and Frequency), must not exceed any of the limits defined in Schedule C - Table 11 (Groundwater Contaminant and Trigger Limits).

(C7-5) Groundwater monitoring bores must be constructed and operated in accordance with methods prescribed in the latest edition of the Agriculture and Resource Management Council of Australia and New Zealand manual titled *Minimum Construction Requirements for Water Bores in Australia.*

(C7-6) An annual groundwater monitoring report analysing groundwater chemistry and hydro-geological status of all groundwater bores and groundwater conditions must be prepared by 1 October each year for the preceding financial year and provided to the administering authority within 10 business days of a request.

Schedule C - Table 10 (Groundwater Monitoring Locations and Frequency)

Monitoring Point	Easting (GDA94)[5]	Northing (GDA94)[5]	Surface RL[1] (m)	Screened interval RL (m)[3]	Monitoring Frequency
Compliance Bores					
Yandan – Tailings Dam (TD) South Bore 3 (TD3)	499333	7646724	179.20	To be advised[3]	Annually
Yandan – TD East Bore 6 (TD6S)	500928	7647105	188.40	178.40 – 181.40	Annually
Yandan – TD South Bore 7 (TD7S)	499436	7646581	177.30	167.30 – 170.30	Annually
Yandan – TD East Bore 8 (TD8)[4]	501281	7647037	189.47	170.47 – 173.47	Quarterly
Yandan – TD South Bore 10 (TD10)[4]	500125	7646506	188.32	169.32 – 172.32	Quarterly
Yandan – TD West Bore 11 (TD11)[4]	499627	7647595	185.25	166.25 – 169.25	Quarterly
Yandan – TD North Bore 13 (TD13) [4]	500463	7648077	189.50	177.50 – 180.50	Quarterly
Yandan – South Hill pit bore 2 (SH3)	497420	7644570	168.60	To be advised[3]	Quarterly
Yandan – Heap Leach west bore 3 (HL3)	498284	7644837	172.40	To be advised[3]	Quarterly
Yandan – Heap Leach east bore 5 (HL5)	498308	7645064	176.50	To be advised[3]	Quarterly
Yandan – Heap Leach north bore 7 (HL7)	498144	7645427	179.20	To be advised[3]	Quarterly
Yandan – Heap Leach north bore 9 (HL9)[4]	498036	7644792	171.78	152.78 – 158.78	Quarterly

Monitoring Point	Easting (GDA94)[5]	Northing (GDA94)[5]	Surface RL[1] (m)	Screened interval RL (m)[3]	Monitoring Frequency
MP02[4]	496812	7645256	171.45	161.95 – 164.95	Quarterly
MP03[4]	496809	7645252	171.32	133.32 – 139.32	Quarterly
MP04[4]	497185	7644814	171.06	158.06 – 161.06	Quarterly
Observation Bores[6]					
Yandan – RB1S (Shallow)[4]	500384	7645745	192.40	182.40 – 185.40	Quarterly
Yandan – RB2S (Shallow)[4]	498940	7646310	173.64	163.64 – 166.64	Quarterly
Yandan – RB2D (Deep)[4]	498940	7646310	173.64	143.64 – 149.64	Quarterly
Reference Bores – Metasediments [2,4]					
Yandan – Heap Leach north bore 8 (HL8)	498393	7644967	172.76	153.76 – 159.76	Quarterly
Yandan – TD South Bore 9 (TD9)	499259	7646411	175.76	163.76 – 166.76	Quarterly
Yandan – RB1D (Deep)	500391	7645748	192.40	162.40 - 168.40	Quarterly
Reference Bores – Mineralisation [2,4]					
MP01	497425	7645076	171.50	148.50 - 151.50	Quarterly

1 RL measurement to be taken from top of bore casing and measured to nearest 0.05m

2 Reference sites must:
(a) be from the same bio-geographic and climatic region; and
(b) have similar geology, soil types and topography; and
(c) not be so close to the test sites that any disturbance at the test site also results in a change at the reference site

3 Historically unavailable, to be advised when identified.

4 Monitoring of the groundwater bores must comply with condition C7-7

5 Locations of the bores referenced in Schedule C - Table 10 (Groundwater Monitoring Locations and Frequency) are broadly described for interpretive purposes on map Schedule J – Figure 3

6 Observation groundwater bores are for interpretation purposes.

Schedule C - Table 11 (Groundwater Contaminant and Trigger Limits)

Parameter	Units	Limit type	Contaminant limit	Trigger Level
pH		Range	6 – 8.5[3]	6.0 – 7.5
Sulfate	mg/L	Maximum	1000[5]	The 80% percentile of the background reference
Arsenic	mg/L	Maximum	0.5[1]	0.013[2,4] or the 80% percentile of the background reference
Cadmium	mg/L	Maximum	0.5[1]	0.0002[4] or the 80% percentile of the background reference
Copper	mg/L	Maximum	0.5[1]	0.0014[4] or the 80% percentile of the background reference
Lead	mg/L	Maximum	0.1[1]	0.0034[4] or the 80% percentile of the background reference
Mercury	mg/L	Maximum	0.1[1]	0.0006[4] or the 80% percentile of the background reference
Molybdenum	mg/L	Maximum	0.05[1]	The 80% percentile of the background reference

Parameter	Units	Limit type	Contaminant limit	Trigger Level
Selenium	mg/L	Maximum	0.02[1]	0.011[4] or the 80% percentile of the background reference
Zinc	mg/L	Maximum	20[1]	0.008[4] or the 80% percentile of the background reference
WAD Cyanide	mg/L	Maximum	0.2	0.007[4] or the 80% percentile of the background reference

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).
2. If arsenic (soluble) exceeds 13ug/L then speciation to As(III) and As(V) must be conducted. The As(III) and As(V) levels must not exceed the 80th percentile of reference site samples or the respective trigger level: As(III) – 24ug/L; As(V) – 13ug/L.
3. Based on ANZECC (2000) primary industries guidelines
4. Default trigger values from ANZECC 2000 for aquatic ecosystems
5. Based on ANZECC (2000) Livestock Drinking Water Guidelines

(C7-7) An amendment application in accordance with the *Environmental Protection Act 1994*, must be submitted to the administering authority to nominate groundwater quality limits for the groundwater bores identified in Footnote 5 of Schedule C - Table 10 (Groundwater Monitoring Locations and Frequency) once sufficient data has been collected in accordance with requirements of the Queensland Water Quality Guidelines (2009) for inclusion in the environmental authority.

Receiving Environment Monitoring Program (REMP)

(C8-1) A REMP must be developed and implemented within 3 months of the date of approval of this environmental authority to monitor and record the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving water. A copy 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.

For the purposes of the REMP, the receiving environment is the waters of the Suttor River and connected waterways within 2 kilometres downstream of the release.

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

(a) Description of potentially affected receiving waters including key communities and background water quality 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 within which the REMP is proposed;

(d) Water 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 the release;

(f) Monitoring of stream flow and hydrology;

(g) Monitoring of toxicants should consider the indicators specified in Schedule C - Table 3 (Release Contaminant Trigger Levels) to assess the extent of the compliance of concentrations with water quality objectives and/or the ANZECC & ARMCANZ 2000 guidelines for slightly to moderately disturbed ecosystems;

(h) Monitoring as a minimum the parameters specified in Schedule C - Table 2 (Contaminant Release Limits) (in addition to dissolved oxygen saturation and temperature);

(i) Monitoring biological indicators (for macroinvertebrates in accordance with the AusRivas methodology / the latest edition of the Administering Authority's monitoring and sampling manual) and metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY 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 location of monitoring points (including the locations specified in Schedule C - Table 8 (Receiving Water Reference Sites and Down Stream Monitoring Points))which are reference and downstream impacted sites for each release point;

(k) The frequency or scheduling or sampling and analysis sufficient to determine water quality objectives and to derive site specific reference values within 2 years (depending on wet season flows) in accordance with the latest edition of the Administering Authority's *Queensland Water Quality Guidelines*. For ephemeral streams, this should include periods of flow irrespective of mine or other discharges;

(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 the conditions of this environmental authority must be prepared and submitted in writing to the administering authority within 2 year of the date of approval of this environmental authority and thereafter every 12 months. This should include an assessment of background water quality, any assimilative capacity for those contaminants monitored and the suitability of current discharge limits to protect downstream environment values.

Annual Water Monitoring Reporting

(C9-1) The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:

(a) The date on which the sample was taken;

(b) The time at which the sample was taken;

(c) The monitoring point at which the sample was taken;

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

(e) The release flow rate at the time of sampling for each release point;

(f) The results of all monitoring and details of any exceedences with the conditions of this environmental authority; and

(g) Water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.

Water Management Plan

(C10-1) A Water Management Plan must be developed and implemented within 3 months of the date of approval of this environmental authority that 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 for Preparing a Water Management Plan 2009 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 (if applicable);

(f) Emergency and Contingency Planning; and

(g) Monitoring and Review.

(C10-3) Each year the holder of the environmental authority must undertake a review of the Water Management Plan prior to the wet season (i.e. by 1 November) and a further review following the wet season (i.e. by 1 May the following 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.

(C10-4) A copy of the Water Management Plan and/or a review of the Water Management Plan must be provided to the administering authority on request.

END OF CONDITIONS FOR SCHEDULE C

Schedule D - Noise and vibration

THERE ARE NO CONDITIONS PRESCRIBED FOR THIS SCHEDULE.

Schedule E - Waste

(E1-1) Only general waste that is generated by the mining activities at the site can be disposed of into the landfill area on ML1095 as identified in Schedule J - Figure 2 (Site map showing major structures on the mine site).

E1-2) When the deposition of waste to the landfill ceases, a final capping system to the landfill must be designed by an appropriately qualified person and installed to:

(a) meet the post mine land classification specified in Schedule F - Table 1 (Post Mine Land Description);

(b) minimise infiltration of water into the landfill unit and water ponding on the surface; and

(c) minimise the likelihood of any erosion occurring to either the final capping system or the landfilled materials.

A final capping system is not required where the deposition of waste to a landfill unit ceases temporarily for the purpose of using an alternative working face.

END OF CONDITIONS FOR SCHEDULE E

Schedule F - Land & Rehabilitation

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.

Rehabilitation Objectives

(F2-1) Land disturbed by mining activities must be rehabilitated in accordance with Schedule F – Table 1 (Post Mine Land Description) and the objectives of the Post Mine Land Use Plan required under condition (F3-1).

Schedule F - Table 1 (Post Mine Land Description)

Tenure ID	Disturbance type	Associated infrastructure	Maximum surface area (ha)	Post mine land description	Post mine land classification
ML1095	Backfilled pit	South Pit	3.2	Open pasture	VII
	Tailings dam	Cell A	113	Open pasture	VII
		Cell B			
		TSF Spillway			
		TSF Embankment			
	Stockpile area	Topsoil stockpile	8.3	Open pasture	VII
	Run-off dam	Mine Water Dam	15.3	Water storage	VIII
	ROM pad	ROM Pad	5.8	Low hill	VII
	Open pit	Main Pit	21	Lake	Void
		East Hill Pit			
	Infrastructure	Tailings Water Return Dam	116.5	Open pasture	VII
		Water Storage Dam			
		Water harvest trench			
		Infrastructure area (including processing plant)			
		Laydown			
		Landfill area			
		Airstrip			
		Core yard			
		Roads and tracks			
		Miscellaneous footprint (cleared areas)			
	Heap leach	Heap Leach Pad (HLP)	20.3	Low hill	VII
		HLP stormwater pond			

Tenure ID	Disturbance type	Associated infrastructure	Maximum surface area (ha)	Post mine land description	Post mine land classification
		Pregnant pond and barren pond			
	Borrow pit	Main pit water management bund borrow pit	36.6	Open pasture	VII
		Flood Plain Borrow Pit			
		Other Borrow Pits			
	Exploration	Exploration areas	4.5	Open pasture	VII
	Water management	Main pit water management bund	2.7	Open pasture	VII
ML1096	Village infrastructure	Village infrastructure	9.1	Open pasture	VII
	Infrastructure	Refer to Roads and tracks			
	Tailings dam	Refer to Tailings Dam			

(F2-2) Progressive rehabilitation must commence when operational areas become available within the operational land.

(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 unless otherwise stated in Schedule F – Table 1 (Post Mine Land Description);

(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 meets criteria for subsequent uses and 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; and

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

(F2-6) Complete investigations into rehabilitation of disturbed areas and submit a report to the administering authority within 12 months of the date of approval of this environmental authority, proposing acceptance criteria to meet the outcomes in (F2-4) and Schedule F – Table F1.

(F2-7) 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) no greater management input than for other land in the area being used for a similar purpose is required and there is evidence that the rehabilitation has been successful for at least three (3) years;

(c) the rehabilitation is carried out in accordance with the goals, objectives indicators and completion criteria as specified in the report to be provided under F1-6; and

(d) written agreement is obtained from the land owner / holder and administering authority.

Post Mine Land Use Plan

(F3-1) A Post Mine Land Use Plan must be developed and included in the plan of operations within 12 months of the date of approval of this environmental authority and updated with each subsequent Plan of Operations, describing how the rehabilitation objectives will be achieved. The Post Mine Land Use Plan must include:

(a) schematic representation of final land form 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 top soil 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 the 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

(F4-1) A rehabilitation monitoring program must be developed and be implemented on commencement of rehabilitation by a person nominated by the holder of this environmental authority possessing appropriate qualifications and experience in the field of mine site rehabilitation.

(F4-2) The holder of the environmental authority must conduct a Rehabilitation Monitoring Program on at

least a yearly basis, which must include sufficient spatial and temporal replication to enable scientifically justifiable conclusions as established under the rehabilitation program or other methodology to the satisfaction of the Administering Authority.

(F4-3) The rehabilitation monitoring program must be developed by and be implemented by a person nominated by the environmental authority holder possessing appropriate qualifications and experience in the field of mine site rehabilitation.

(F4-4) Verification of rehabilitation success is to be carried out as follows:

a) for each domain; and

b) monitoring must be carried out for each domain at a minimum sampling intensity of 1:15,000.

c) monitoring must include sufficient replication to enable statistical analysis results at an acceptable power.

Infrastructure

(F5-1) All buildings, structures, mining equipment and plant erected and/or used for the mining activities must be removed from the site prior to surrender, except where agreed in writing by the administering authority and the landowner.

Contaminated Land

(F6-1) 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

(F7-1) 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.

(F7-2) Mining voids must be managed during the operation and decommissioning phases to maximise the potential post mine beneficial uses, 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.

(F7-3) Decommissioning strategies for the final voids must be updated with each update of the Plan of Operations.

Post Closure Management Plan

(F8-1) A Post Closure Management Plan for the site must be developed and submitted to the administering authority within 12 months of the date of approval of this environmental authority for a period of:

(a) at least thirty (30) years following final ore processing on site; or

(b) a shorter period if the site is proven to be 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.

(F8-2) 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.

END OF CONDITIONS FOR SCHEDULE F

Schedule G- Dams

General

(G1-1) The Design Storage Allowance for dams specified in Schedule G - Table 3 are a minimum design storage requirement and any releases from any dams must meet the requirements set out under the water schedule of this environmental authority.

(G1-2) The hazard category of each dam must be determined by a suitably qualified and experienced person, prior to its construction and at least once every two years thereafter

(G1-3) Construction of any dam determined to be in the significant or high hazard category (ie. a regulated dam) must not be commenced unless the location, basic details, and hydraulic performance of that dam are specifically referenced in this environmental authority.

(G1-4) On cessation of operation of any dam, that dam must be maintained so as to avoid environmental harm until that dam is decommissioned.

(G1-5) Prior to the cessation of the environmentally relevant activity, each dam must be decommissioned such that it either:

(a) becomes a stable landform, that no longer contains flowable substances, or
(b) is approved or authorised under relevant legislation for a beneficial use, or
(c) is a void authorised by the administering authority to remain after decommissioning; and is compliant with the rehabilitation requirements of this environmental authority.

Location and Hydraulic Performance

(G2-1) The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule G - Table 1 (Size and purpose of dams containing hazardous waste).

Schedule G — Table 1 (Size and purpose of dams containing hazardous waste)

Name of dam containing hazardous waste	Maximum surface area of dam (ha)	Maximum volume of dam (m^3)	Maximum depth of dam (m)	Purpose of dam
Yandan Tailings Dam	100	9,000,000	9	Tailings Storage
Tailing Return Dam	To Be Advised[1]	To Be Advised[1]	To Be Advised[1]	Capture runoff from Tailings Dam
Process Water Dam	19	478,000	9	Process Water Storage
Heap Leach Stormwater Pond	1	73,000	7	Contain Barren Pond Overflow
Main Pit	14.6	2,800,000	50	Final Void
East Hill Pit	0.8	100,000	25	Final Void

Note 1 Within three months of the date of approval of this environmental authority

(G2-2) Any dam containing hazardous waste constructed or operated within the operational land must be located within the control points defined in Schedule G - Table 2 (Location of dams containing hazardous waste).

Schedule G — Table 2 (Location of dams containing hazardous waste)

Name of dam containing hazardous waste	Easting GDA94(1)	Northing GDA94(1)
Yandan Tailings Dam	499328 Additional boundary points to be identified[2]	7646508 Additional boundary points to be identified[2]
Tailings Return Dam	To be advised[2]	To be advised[2]
Process Water Dam	499412 Additional boundary points to be identified[2]	7646592 Additional boundary points to be identified[2]
Heap Leach Stormwater Pond	497985 Additional boundary points to be identified[2]	7644755 Additional boundary points to be identified[2]
Main Pit	496800 Additional boundary points to be identified[2]	7644850 Additional boundary points to be identified[2]
East Hill Pit	To be advised[2]	To be advised[2]

Note 1: A minimum of 3 control points is required to constrain the location of all activities associated with the dam containing hazardous waste. Additional infrastructure which forms part of any dam containing hazardous waste may include appurtenant works consisting of tailings discharge pipelines, seepage collection systems, runoff diversion bunds, containment systems, pressure relief wells, decant and recycle water systems.

Note 2 Within three months of the date of approval of this environmental authority

(G2-3) The following regulated dams must meet the hydraulic performance criteria specified in Schedule G - Table 3 (Hydraulic Performance of Regulated Dams).

Schedule G - Table 3 (Hydraulic Performance of Regulated Dams)

Name of Regulated dam	Spillway Capacity Critical Design Storm[1]	Design Storage Allowance[2]	Mandatory Reporting Level[3]
Process Water Dam	1: 100 Year ARI*	1: 100 Year ARI* 3 month wet season	1: 100 year ARI*
Tailings Return Dam	1: 100 Year ARI*	1: 100 Year ARI* 3 month wet season	1: 100 year ARI*
Heap Leach Stormwater Pond	1: 100 Year ARI*	1: 100 Year ARI* 3 month wet season	1: 100 year ARI*
East Hill Pit	1: 100 Year ARI*	1: 100 Year ARI* 3 month wet season	1: 100 year ARI*

*ARI means annual recurrence interval.

Note 1: The Spillway must be designed to discharge either the flow from the critical storm which is the storm with a duration that produces the peak discharge for the catchment, or the peak inflow rate of return water being pumped into the dam, whichever is greater

Note 2: The design storage allowance on 1st November of each year for any dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 100 ARI 3 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.

Note 3: The mandatory reporting level refers to the volume below the spillway crest, either the 1:100 ARI 72 hour storm or the 1:100 ARI wave allowance, whichever is lower.

Design, Certification and Construction

(G3-1) Every regulated dam must be constructed in accordance with a certified design plan that has been submitted to the administering authority, and such that the resulting dam will deliver the performance stated in that submitted design plan and that dam is compliant in all respects with this environmental authority.

(G3-2) Construction of a regulated dam must not be commenced unless:

(a) the licensee has submitted to the administering authority two copies of a design plan, together with the certification of a suitably qualified and experienced person that the design of the regulated dam will deliver the performance stated in that submitted design plan and that dam is compliant in all respects with this environmental authority, and
(b) at least twenty (20) business days has passed since the receipt of those documents, or the administering authority notifies the licensee that a design plan and certification has been submitted for that dam.

(G3-3) When construction of any regulated dam is complete and prior to commencing operation of that dam, the licensee must submit to the administering authority two copies of a set of 'as constructed' drawings, together with the certification of a suitably qualified and experienced person that the dam 'as constructed' will deliver the performance stated in that submitted design plan and that dam is compliant in all respects with this environmental authority.

Operation of Dams

(G4-1) An operational plan must be kept current for each regulated dam.

(G4-2) Where an operational plan covers decommissioning and rehabilitation, those operations are to be consistent with the design plan for the dam and the rehabilitation requirements of this environmental authority.

(G4-3) The licensee must notify the administering authority as soon as possible, but within twenty-four (24) hours, of the level in any regulated dam reaching the mandatory reporting level (MRL); and must immediately act to prevent or minimize any actual or potential environmental harm.

Inspection of Dams

(G5-1) Each regulated dam must be inspected annually by a suitably qualified and experienced person.

(G5-2) At each annual inspection, the condition and adequacy of each regulated dam must be assessed for dam safety and against the necessary structural, geotechnical and hydraulic performance criteria.

(G5-3) At each annual inspection, if a mandatory reporting level is required, it must be determined and marked on each regulated dam.

(G5-4) A final assessment of adequacy of available storage in each regulated dam must be based on a dam level observed within the month of October and result in an estimate of the level in that dam as at 1 November.

(G5-5) For each annual inspection, two copies of a report on the condition and adequacy of each regulated dam, certified by the suitably qualified and experienced person and including any recommended actions to be taken to ensure the integrity of each regulated dam; must be provided to the administering authority by 1 December.

(G5-6) The licensee must, within one week of receipt of the annual inspection report, consider the report and its recommendations; and as soon as possible, but within one month of receipt of the annual inspection report, formulate and implement actions to ensure that each regulated dam safely performs its intended functions.

Main Pit Bund

(G6-1) The integrity of the bund wall for the main pit must be maintained until its removal or modification is authorized by the administering authority. This authorization will be on the basis that the authority holder can demonstrate that the removal or modification of the bund would not result in an unacceptable risk of potential environmental harm.

(G6-2) Prior to removing or modifying the main pit bund wall, the holder of the environmental authority must submit to the administering authority for acceptance a design plan that has been certified by a suitably qualified and experienced person, as compliant in all respects with this environmental authority, and in accordance with accepted engineering standards.

(G6-3) Removal or modification of the main pit bund wall shall be done only in accordance with an accepted design plan.

(G6-4) When removal or modification of the main pit bund wall is complete, the holder of this environmental authority must submit to the administering authority a set of ‘as constructed’ drawings, and a certification by a suitably qualified and experienced person that either:

- the construction is substantially as per the accepted design plan, or
- the suitably qualified and experienced person certifies that the as constructed plan is compliant in all respects with this environmental authority, and in accordance with accepted engineering standards.

END OF CONDITIONS FOR SCHEDULE G

Schedule H - Community

Complaint response

(H1-1) 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.

END OF CONDITIONS FOR SCHEDULE H

Schedule I – Definitions

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

- stability of final land forms in terms of settlement, erosion, weathering, pondage and drainage;
- control of geochemical and contaminant transport processes;
- quality of runoff waters and potential impact on receiving environment;
- 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 use and effects on ground water levels and catchment yields.

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

"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.

"dam" means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.

"design plan" - in the context of a dam design is the documentation required under the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste" to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

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

"flowable substance" means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

"foreseeable future" is the period used for assessing the total risk of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable risk of failure before that time.

"general waste" means waste other than regulated waste.

"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.

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose of mining activities but does not include other facilities required for the long term management of mining impacts or the protection of potential resources. Such other facilities include dams containing hazardous waste, waste rock dumps, voids, or ore stockpiles and buildings as well as 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 land owner.

"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.

"mandatory reporting level" means the level below the spillway crest, equivalent to the lower of the 72 hour ARI storm or the ARI wave allowance whichever level is lower.

"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 therefrom;
(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;

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.

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

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

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

"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.

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

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

"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.

"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 land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"tolerable limits" means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

"watercourse" - Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with:

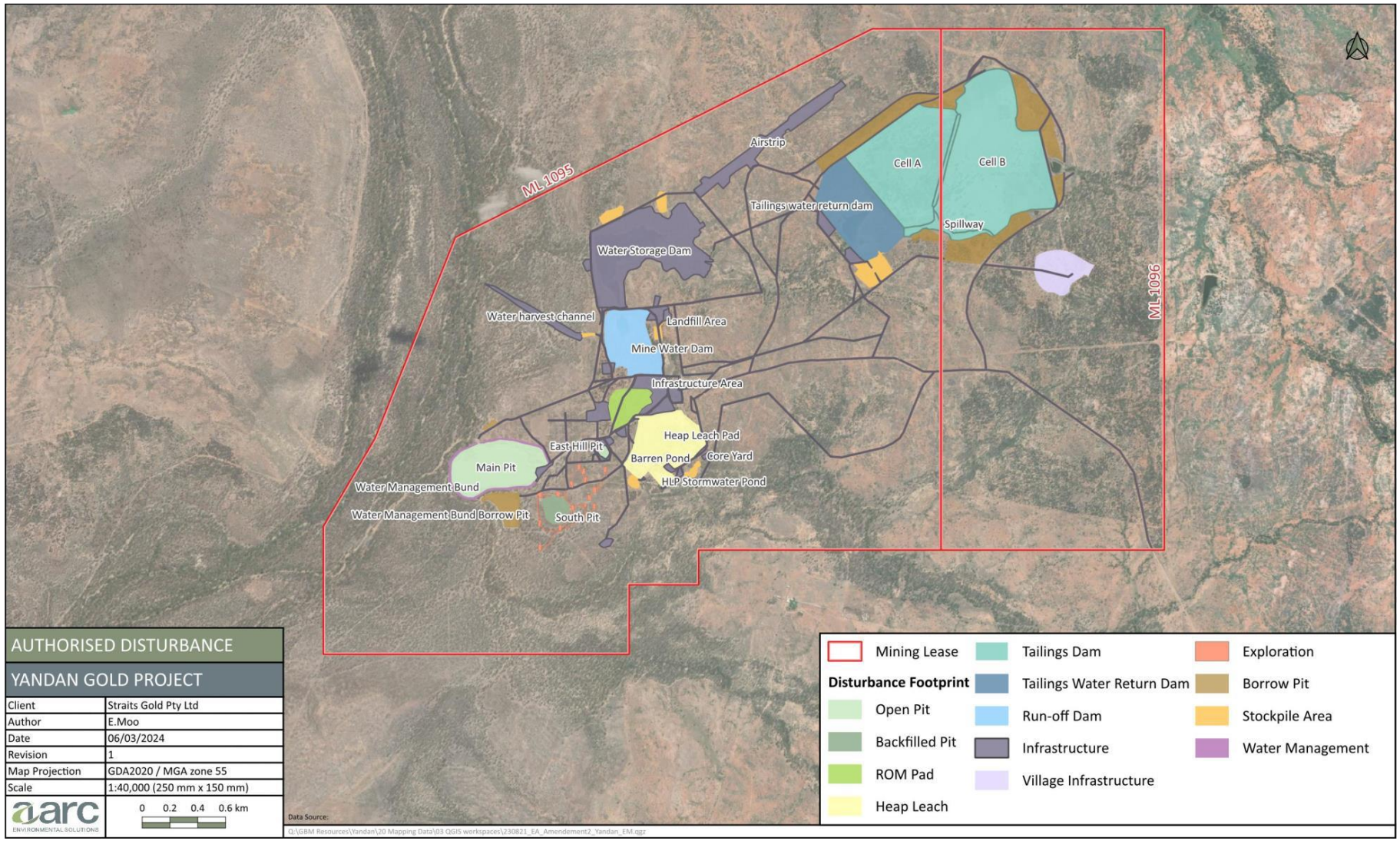
(a) continuous bed and banks;
(b) an extended period of flow for some months after rain ceases, and
(c) an adequacy of flow that sustains basic ecological processes and maintains biodiversity.

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

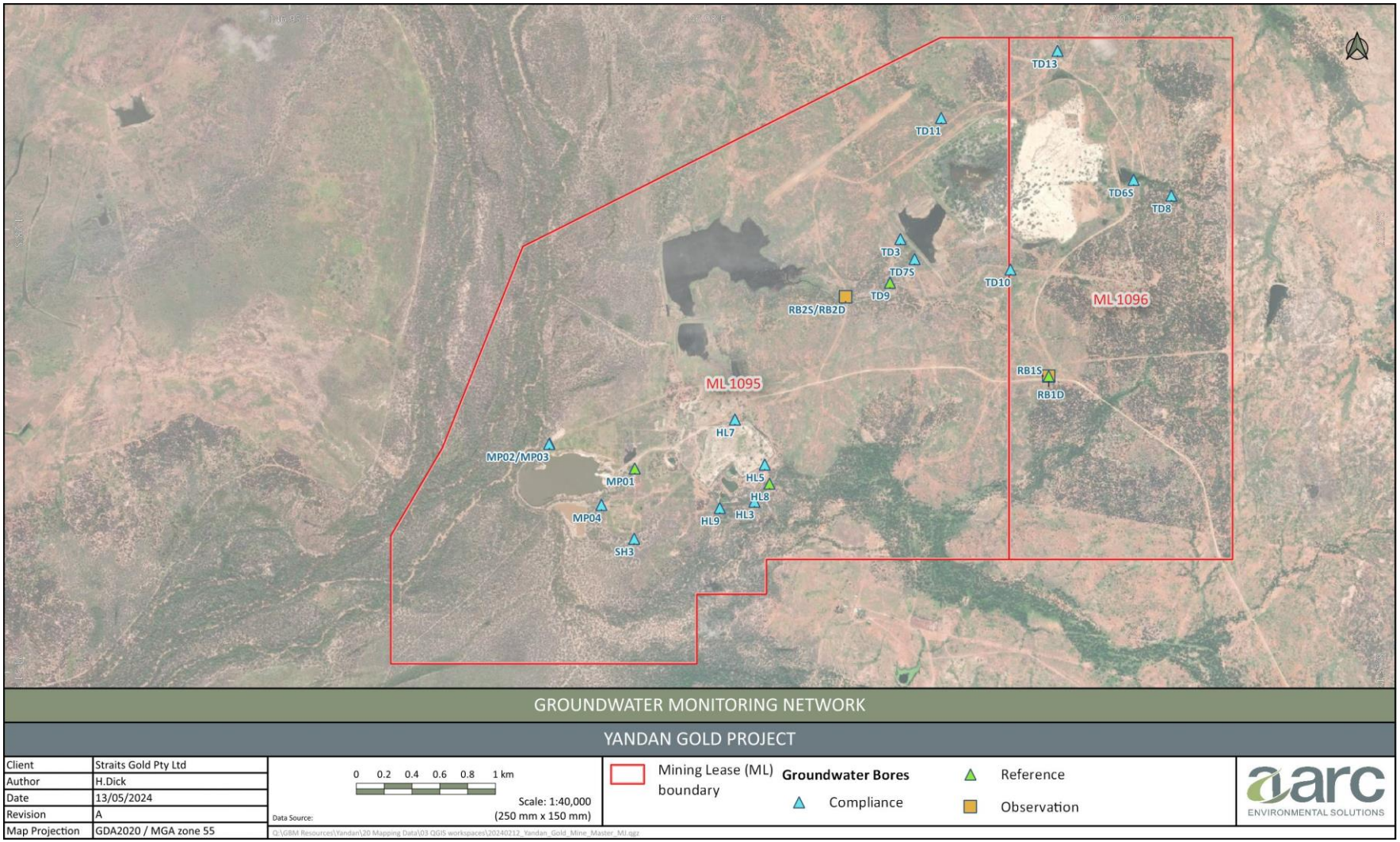
Schedule J – Maps and Figures

Schedule J - Figure 1 (Site map showing contaminant release points and monitoring points)

Schedule J - Figure 2 (Site map showing major structures on the mine site)



Schedule J - Figure 3 (Site map showing groundwater monitoring locations)



END OF ENVIRONMENTAL AUTHORITY