

Permit

Environmental Protection Act 1994

Environmental authority EPML00771613

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

Environmental authority number: EPML00771613

Environmental authority takes effect on 27 August 2018

Environmental authority holder(s)

Name(s)	Registered address
FORTIFIED GOLD PTY LTD	'GRANT THORNTON ' LEVEL 43, 152 - 158 ST GEORGES TERRACE PERTH WA 6000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Schedule 2A, 16: Mining gold ore	ML1437
Resource Activity, Schedule 2A, 16: Mining gold ore	ML1350
Resource Activity, Schedule 2A, 16: Mining gold ore	ML1438
Resource Activity, Schedule 2A, 16: Mining gold ore	ML1349
Resource Activity, Schedule 2A, 16: Mining gold ore	ML1351
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML1437
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML1350
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML1438
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML1349
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	ML1351
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the	ML1437

Environmental authority

Environmentally relevant activity/activities	Location(s)
following quantity of waste mentioned in subsection (1) (a), (d) more than 200,000t	
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (d) more than 200,000t	ML1350
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (d) more than 200,000t	ML1438
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (d) more than 200,000t	ML1349
Resource Activity, Ancillary 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (d) more than 200,000t	ML1351
Resource Activity, Ancillary 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML1437
Resource Activity, Ancillary 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML1350
Resource Activity, Ancillary 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML1438
Resource Activity, Ancillary 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ML1349
Resource Activity, Ancillary 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (a-i) 21 to 100EP if treated effluent is discharged	ML1351

Environmental authority

Environmentally relevant activity/activities	Location(s)
from the works to an infiltration trench or through an irrigation scheme	
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (a) 1000t to 100,000t	ML1437
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (a) 1000t to 100,000t	ML1350
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (a) 1000t to 100,000t	ML1438
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (a) 1000t to 100,000t	ML1349
Resource Activity, Ancillary 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (a) 1000t to 100,000t	ML1351

Additional information for applicantsEnvironmentally relevant activities

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

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

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

Contaminated land

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

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

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

Environmental authority

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

Take effect

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

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

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

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

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

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

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

Date issued: 27 August 2018

Conditions of environmental authority

Location: Far Fanning Project, approximately 45km north-north-east of Charters Towers
ML1349, ML1350, ML1351, ML1437, ML1438

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

Agency interest: General	
Condition number	Condition
G1	This environmental authority authorises environmental harm referred to in the conditions. Where there is no condition or this environmental authority is silent on a matter, the lack of a condition or silence does not authorise environmental harm.
G2	Financial Assurance Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this environmental authority.
G3	The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.
G4	Maintenance of Measures, Plant and Equipment 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.
G5	Monitoring 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.
G6	Where monitoring is a requirement of this environmental authority, ensure that an appropriately qualified person(s) conducts all monitoring.
G7	Storage and Handling of Flammable and Combustible Liquids All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods must be stored and handled in accordance with: a) the current Australian standard where such is applicable. b) where no relevant Australian standard exists store such materials within an effective on-site containment system sufficient to prevent release to the receiving environment.

G8	Definitions Words and phrases used throughout this EA are defined in Definitions. Where a definition for a term used in this EA is sought and the term is not defined within this EA, the definitions in the <i>Environmental Protection Act 1994</i> , its Regulations and Environmental Protection Policies must be used.
G9	Notification of emergencies, incidents and exceptions The environmental authority holder must notify the administering authority within 24 hours of becoming aware of any emergency, incident, sample result or event which does or may contravene a condition of this environmental authority.
G10	Written advice of the following information must be provided within 14 days following any event as identified in Condition (G9): – the location of the event; – the time of the event; – the time the holder of this authority became aware of the event; – the suspected cause of the event; – a description of the resulting effects of the event; – actions taken to mitigate any environmental harm and or environmental nuisance caused by the event; – proposed actions to prevent a recurrence of the event.

Agency interest: Air	
Condition number	Condition
A1	Dust nuisance Subject to Conditions (A2) and (A3) the release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance, at any sensitive place.
A2	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.
A3	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 (A1): 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 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with: i) 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 ii) 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.
A4	If monitoring indicates exceedence of the relevant limits in Condition (A3), 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.

Agency interest: Water																																																																	
Condition number	Condition																																																																
WA1	Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters.																																																																
WA2	Receiving waters must be monitored at the locations and frequencies defined in Table 1 and comply with the contaminant limits specified in Table 2. Table 1 (Receiving Water Monitoring Locations and Frequency) <table><tr><th>Monitoring point</th><th>Latitude (GDA94)</th><th>Longitude (GDA94)</th><th>Monitoring frequency</th></tr><tr><td>Far Fanning Beaver Creek (FFBRO)</td><td>-19.67314773870</td><td>146.38218653000</td><td>Annually¹</td></tr><tr><td>Far Fanning Arthur Creek (FFARO)</td><td>-19.67218701540</td><td>146.35564144100</td><td>Annually¹</td></tr></table> ¹ At least one sampling event per sampling location must be undertaken that represents the first rainfall of the wet season and equates to a 'first flush' of the licensed sites Table 2 (Receiving Water Contaminant Limits) <table><tr><th>Parameter</th><th>Units</th><th>Limit type</th><th>Limit</th></tr><tr><td>pH</td><td></td><td>Acceptable range</td><td>7 - 9</td></tr><tr><td>Total Dissolved Solids</td><td>mg/L</td><td>Maximum</td><td>4000</td></tr><tr><td>Sulfate</td><td>mg/L</td><td>Maximum</td><td>1000</td></tr><tr><td>Copper</td><td>mg/L</td><td>Maximum</td><td>1¹</td></tr><tr><td>Molybdenum</td><td>mg/L</td><td>Maximum</td><td>0.15¹</td></tr><tr><td>Arsenic</td><td>mg/L</td><td>Maximum</td><td>0.5¹</td></tr><tr><td>Selenium (Total)</td><td>mg/L</td><td>Maximum</td><td>0.02¹</td></tr><tr><td>Mercury</td><td>mg/L</td><td>Maximum</td><td>0.002¹</td></tr><tr><td>Lead</td><td>mg/L</td><td>Maximum</td><td>0.1¹</td></tr><tr><td>Zinc</td><td>mg/L</td><td>Maximum</td><td>20¹</td></tr><tr><td>Cyanide</td><td>mg/L</td><td>Maximum</td><td>0.1¹</td></tr><tr><td>Cadmium</td><td>mg/L</td><td>Maximum</td><td>0.01¹</td></tr></table> NOTE: This does not apply to tailings dams ¹ These limits are based upon the ANZECC 2000 limits for livestock drinking water, and the concentrations therefore relate to total concentrations in relation to metals. (See section 4.3.4 of the Guidelines.).	Monitoring point	Latitude (GDA94)	Longitude (GDA94)	Monitoring frequency	Far Fanning Beaver Creek (FFBRO)	-19.67314773870	146.38218653000	Annually ¹	Far Fanning Arthur Creek (FFARO)	-19.67218701540	146.35564144100	Annually ¹	Parameter	Units	Limit type	Limit	pH		Acceptable range	7 - 9	Total Dissolved Solids	mg/L	Maximum	4000	Sulfate	mg/L	Maximum	1000	Copper	mg/L	Maximum	1 ¹	Molybdenum	mg/L	Maximum	0.15 ¹	Arsenic	mg/L	Maximum	0.5 ¹	Selenium (Total)	mg/L	Maximum	0.02 ¹	Mercury	mg/L	Maximum	0.002 ¹	Lead	mg/L	Maximum	0.1 ¹	Zinc	mg/L	Maximum	20 ¹	Cyanide	mg/L	Maximum	0.1 ¹	Cadmium	mg/L	Maximum	0.01 ¹
Monitoring point	Latitude (GDA94)	Longitude (GDA94)	Monitoring frequency																																																														
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Copper	mg/L	Maximum	1 ¹																																																														
Molybdenum	mg/L	Maximum	0.15 ¹																																																														
Arsenic	mg/L	Maximum	0.5 ¹																																																														
Selenium (Total)	mg/L	Maximum	0.02 ¹																																																														
Mercury	mg/L	Maximum	0.002 ¹																																																														
Lead	mg/L	Maximum	0.1 ¹																																																														
Zinc	mg/L	Maximum	20 ¹																																																														
Cyanide	mg/L	Maximum	0.1 ¹																																																														
Cadmium	mg/L	Maximum	0.01 ¹																																																														

WA3

Dams containing hazardous waste

In the event that the water quality of any standing water does not comply with the limits defined in Table 3, implement measures to prevent access by all livestock and minimise access by fauna.

Table 3 (Water quality limits)

Parameter	Units	Contaminant limit
pH	Acceptable range	7 - 9
Total Dissolved Solids	mg/L	4000
Sulfate	mg /L	1000
Magnesium	mg/L	2000
Copper	mg/L	1
Molybdenum	mg/L	0.15
Arsenic	mg/L	0.5
Selenium	mg/L	0.02
Mercury	mg/L	0.002
Lead	mg/L	0.1
Zinc	mg/L	20
Cyanide	mg/L	50

¹ These values related to total, unfiltered concentrations.

WA4

The design storage allowance on 1st November of each year for any dam containing hazardous waste constructed or operated within the operational land must comply with Table 4.

Table 4 (Storage design for dams containing hazardous waste)

Storage Type	Design Storage Allowance ⁽⁵⁾	Spillway Critical Design Storm ⁽⁶⁾	Mandatory Reporting Level ⁽⁷⁾
	1: 200 Year ARI 3 month wet season plus process inputs for the 3 month wet season	1: 1000 Year ARI	1: 100 year ARI

NOTE: ARI means annual recurrence interval.

Note ⁽⁵⁾:

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 ARI month wet season plus process inputs for the equivalent wet season.

	<i>Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility.</i> <i>Note ⁽⁶⁾: The critical design storm has a duration that produces the peak discharge for the catchments.</i> <i>Note ⁽⁷⁾: The mandatory reporting level refers to the volume below the spillway crest, either the ARI 72 hour storm or the ARI wave allowance, whichever is lower.</i>																								
WA5	The spillway for any dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow from the spillway critical design storm defined in Table 4.																								
WA6	The holder of the environmental authority must mark the mandatory reporting level defined in Table 4 on the spillway of all dams containing hazardous waste within the operational land.																								
WA7	The holder of the environmental authority must notify the administering authority when the pondage level of any dam containing hazardous waste, reaches the mandatory reporting level defined in Table 4.																								
WA8	Erosion Protection and Control All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.																								
WA9	Stream Sediment Contaminant Levels The contaminant concentrations measured at the monitoring sites specified in Table 5 must not exceed any sediment quality objective specified in Table 6. Table 5 (Receiving Water Sediment Monitoring Locations and Frequency) <table><tr><th>Monitoring point</th><th>Latitude (GDA94)</th><th>Longitude (GDA94)</th><th>Monitoring frequency</th></tr><tr><td colspan="4">Reference* Monitoring Point/s</td></tr><tr><td>To be determined</td><td>To be determined</td><td>To be determined</td><td>To be determined</td></tr><tr><td colspan="4">Compliance Monitoring Points</td></tr><tr><td>Far Fanning Beaver Creek (FFBRO)</td><td>-19.67314773870</td><td>146.38218653000</td><td>Annually¹</td></tr><tr><td>Far Fanning Arthur Creek (FFARO)</td><td>-19.67218701540</td><td>146.35564144100</td><td>Annually¹</td></tr></table> ¹ Sediment samples must be collected at the end of the dry season each year. *Reference sites must: a) be from the same bio-geographic and climatic region; b) have similar geology, soil types and topography; c) contain a range of habitats similar to those at the test sites; d) be of a similar flow regime; and e) not be so close to the test sites that any disturbances at the test site also results in a change at the reference site.	Monitoring point	Latitude (GDA94)	Longitude (GDA94)	Monitoring frequency	Reference* Monitoring Point/s				To be determined	To be determined	To be determined	To be determined	Compliance Monitoring Points				Far Fanning Beaver Creek (FFBRO)	-19.67314773870	146.38218653000	Annually ¹	Far Fanning Arthur Creek (FFARO)	-19.67218701540	146.35564144100	Annually ¹
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Far Fanning Arthur Creek (FFARO)	-19.67218701540	146.35564144100	Annually ¹																						

The data from reference monitoring points must not be used where they are affected by releases from other mines.

Table 6 (Receiving Water Sediment Quality Objectives)

Parameter	Sediment Quality Objective ¹
	(mg/kg dry wt, unless otherwise specified)
Arsenic	70 ² or 2 x reference site concentration ³ , whichever is higher
Cadmium	10 ² or 2 x reference site concentration ³ , whichever is higher
Copper	270 ² or 2 x reference site concentration ³ , whichever is higher
Lead	220 ² or 2 x reference site concentration ³ , whichever is higher
Mercury	1 ² or 2 x reference site concentration ³
Molybdenum	2 x reference site concentration ³
Zinc	410 ² or 2 x reference site concentration ³ , whichever is higher
Particle size distribution	For interpretive purposes only
Total organic carbon	For interpretive purposes only

1. All stream sediment sampling must be undertaken in accordance with AS/NZS 5667.12:1999 Water quality - Sampling - Guidance on sampling of bottom sediments
2. ANZECC (2000) Interim Sediment Quality Guidelines high values based on total sediments (dry weight).
3. Reference site concentration determined from reference site specified in Table 5 (Receiving Water Sediment Monitoring Locations and Frequency).

WA10 All stream sediment sampling must be undertaken in compliance with AS/NZS 5667.12:1999 Water quality - Sampling - Guidance on sampling of bottom sediments.

WA11 **Sewage Effluent**
Treated sewage effluent may only be discharged to the evaporation trenches on site. Effluent may not be used for dust suppression or irrigation, nor discharged to land.

WA12	Ground water The holder of this environmental authority must not release contaminants to groundwater.						
WA13	Ground water must be monitored at the locations and frequencies defined in Table 7.						
	Table 7 (Groundwater monitoring locations and frequency)						
	Monitoring Point	Location (GDA)		Surface RL (m) ^[1]	Screened interval RL (m)	Monitoring Frequency	
		Latitude	Longitude			Standing Water Level	Groundwater Quality
	Aquifer description [Note: Descriptions of aquifers should be based on accepted aquifer nomenclature, for example, aquifer descriptions within the Great Artesian Basin (GAB) should be based on the stratigraphic sequence described in the hydrogeological framework report for the GAB Water Resource Plan area (Department of Natural Resources and Mines, 2005)].						
	Reference bores³						
	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	Quarterly
	Compliance bores						
	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	Quarterly
	Aquifer description						
	Reference bores						
	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	Quarterly
	Compliance bores						
	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	Quarterly
	Observation Bores (Optional)						
TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	TBA ²	Quarterly	
¹ RL must be measured at the top of the bore casing to the nearest 5cm.							
² TBA means groundwater bores to be determined in accordance with condition WA15.							
³ Reference sites must:							
(a) have a similar flow regime							
(b) be from the same bio-geographic and climatic region							
(c) have similar geology, soil types and topography							
(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.							

WA14	Subject to Condition (WA13) if the groundwater trigger levels defined in Table 8 are exceeded, then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results. Table 8 (Groundwater Trigger Levels) <table><tr><th>Parameter</th><th>Units</th><th>Limit type</th><th>Groundwater trigger levels¹</th></tr><tr><td>pH</td><td></td><td>Acceptable range</td><td>7 - 9</td></tr><tr><td>Total Dissolved Solids</td><td>mg/L</td><td>Maximum</td><td>4000</td></tr><tr><td>Sulfate</td><td>mg/L</td><td>Maximum</td><td>1000</td></tr><tr><td>Magnesium</td><td>mg/L</td><td>Maximum</td><td>2000</td></tr><tr><td>Copper</td><td>mg/L</td><td>Maximum</td><td>1</td></tr><tr><td>Molybdenum</td><td>mg/L</td><td>Maximum</td><td>0.15</td></tr><tr><td>Arsenic</td><td>mg/L</td><td>Maximum</td><td>0.5</td></tr><tr><td>Selenium</td><td>mg/L</td><td>Maximum</td><td>0.02</td></tr><tr><td>Mercury</td><td>mg/L</td><td>Maximum</td><td>0.002</td></tr><tr><td>Lead</td><td>mg/L</td><td>Maximum</td><td>0.1</td></tr><tr><td>Zinc</td><td>mg/L</td><td>Maximum</td><td>20</td></tr><tr><td>Cyanide</td><td>mg/L</td><td>Maximum</td><td>0.1</td></tr><tr><td>Major cations and anions</td><td>mg/L</td><td colspan="2">For interpretation purposes</td></tr></table> ¹ These limits are based upon the ANZECC 2000 limits for livestock drinking water, and the concentrations therefore relate to total unfiltered concentrations in relation to metals. (See section 4.3.4 of the Guidelines.)	Parameter	Units	Limit type	Groundwater trigger levels ¹	pH		Acceptable range	7 - 9	Total Dissolved Solids	mg/L	Maximum	4000	Sulfate	mg/L	Maximum	1000	Magnesium	mg/L	Maximum	2000	Copper	mg/L	Maximum	1	Molybdenum	mg/L	Maximum	0.15	Arsenic	mg/L	Maximum	0.5	Selenium	mg/L	Maximum	0.02	Mercury	mg/L	Maximum	0.002	Lead	mg/L	Maximum	0.1	Zinc	mg/L	Maximum	20	Cyanide	mg/L	Maximum	0.1	Major cations and anions	mg/L	For interpretation purposes	
Parameter	Units	Limit type	Groundwater trigger levels ¹																																																						
pH		Acceptable range	7 - 9																																																						
Total Dissolved Solids	mg/L	Maximum	4000																																																						
Sulfate	mg/L	Maximum	1000																																																						
Magnesium	mg/L	Maximum	2000																																																						
Copper	mg/L	Maximum	1																																																						
Molybdenum	mg/L	Maximum	0.15																																																						
Arsenic	mg/L	Maximum	0.5																																																						
Selenium	mg/L	Maximum	0.02																																																						
Mercury	mg/L	Maximum	0.002																																																						
Lead	mg/L	Maximum	0.1																																																						
Zinc	mg/L	Maximum	20																																																						
Cyanide	mg/L	Maximum	0.1																																																						
Major cations and anions	mg/L	For interpretation purposes																																																							
WA15	By 1 March 2019, the holder of the environmental authority must provide the administering authority details of groundwater monitoring bores required in Table 7.																																																								
WA16	By 27 August 2021, the holder of the environmental authority must provide the administering authority site specific groundwater limits for groundwater monitoring bores specified in Table 7. The site specific values must be determined in accordance with the method outlined in the <i>Guideline Using monitoring data to assess groundwater quality and potential environmental impacts (March 2017)</i> .																																																								
WA17	By 27 August 2021, a Groundwater Management Program must be developed, documented and implemented by appropriately qualified persons.																																																								
WA18	The Groundwater Management Program required by Condition WA17 must: a) identify potential sources of contamination to groundwater from the activity; and																																																								

	b) ensure that all potential groundwater impacts due to the activity are identified, monitored and mitigated; and c) document sampling and monitoring methodology; and d) ensure that adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives: a. detect any impacts to groundwater quality due to the activity; and b. determine compliance with conditions WA12 and WA14; and c. determine trends in groundwater quality. e) include an appropriate quality assurance and quality control program; and f) include a conceptual groundwater model; and g) include a review process to identify improvements to the program that includes addressing any comments provided by the administering authority.
WA19	The construction, maintenance and decommissioning of groundwater monitoring bores must be undertaken in a manner that: a) prevents contaminants entering the groundwater; and b) ensures the integrity of the bores to obtain representative groundwater samples from the target aquifer; and c) maintains the hydrogeological environment within the aquifer.
WA20	A bore drill log must be kept for each reference, compliance and observation groundwater monitoring bore which includes: a) bore identification reference and geographic coordinate location; b) specific construction information including but not limited to depth of bore, depth and length of casing, depth and length of screening and bore sealing details; c) standing groundwater level and water quality parameters including physical parameters and results of laboratory analysis for the possible trigger parameters; d) lithological data and stratigraphic interpretation by an appropriately qualified person to identify important features associated with groundwater monitoring; and e) target aquifer formation of the bore.
WA21	Monitoring and sampling must be carried out in accordance with written procedures and the latest version of the following documents unless otherwise approved by the administering authority: a) for waters and aquatic environments, the Queensland Government's Monitoring and Sampling Manual 2018 – Environmental Protection (Water) Policy 2009. b) for groundwater, Groundwater Sampling and Analysis – A Field Guide (2009:27 GeoCat#6890.1) and Australian Standard AS/NZS 5667.11:1998 Water Quality – Sampling – Guidance on sampling of groundwaters.

Agency interest: Noise																																							
Condition number	Condition																																						
N1	Subject to Conditions (N2) and (N3) noise from the mining activity must not cause an environmental nuisance, at any sensitive place.																																						
N2	When requested by the Administering Authority, noise monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place, and the results must be notified within 14 days to the administering authority following completion of monitoring.																																						
N3	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table 9, 10 and 11 inclusive, are not being exceeded then the holder is not in breach of Condition (N1). Monitoring must include: a) LA, max adj, T b) the level and frequency of occurrence of impulsive or tonal noise; c) atmospheric conditions including wind speed and direction; and d) location, date and time of recording.																																						
N4	If monitoring indicates exceedence of the limits in Table 9, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; or b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.																																						
N5	The method of measurement and reporting of noise levels must comply with the latest editions of the administering authority's Noise Manuals. Table 9 (Noise limits - 'Sensitive place other than a sensitive place which is a commercial place') <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="3">Noise level dB(A) measured as</th><th colspan="6">Noise measured at a 'Noise sensitive place'</th></tr> <tr> <th colspan="3">Monday to Saturday</th><th colspan="3">Sundays and public holidays</th></tr> <tr> <th>7am - 6pm</th><th>6pm - 10pm</th><th>10pm - 7am</th><th>9am - 6pm</th><th>6pm - 10pm</th><th>10pm - 9am</th></tr> <tr> <td>LA10, adj, 10 mins</td><td>45</td><td>40</td><td>35</td><td>45</td><td>40</td><td>35</td></tr> <tr> <td>LA1, adj, 10 mins</td><td>50</td><td>45</td><td>40</td><td>50</td><td>45</td><td>40</td></tr> </table> Note: The method of measurement and reporting of noise levels must comply with the latest editions of the administering authority's Noise Manuals.						Noise level dB(A) measured as	Noise measured at a 'Noise sensitive place'						Monday to Saturday			Sundays and public holidays			7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am	LA10, adj, 10 mins	45	40	35	45	40	35	LA1, adj, 10 mins	50	45	40	50	45	40
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N6	Vibration Nuisance Subject to Conditions (N7) and (N8) vibration from the mining activity must not cause an environmental nuisance, at any sensitive place.																																																	
N7	When requested by the Administering Authority, vibration 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.																																																	
N8	If the environmental authority holder can provide evidence through monitoring that the limits defined in Table 12 are not being exceeded then the holder is not in breach of (N6). Monitoring must include: a) location of the blast/s within the mining area (including which bench level); and b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and c) location, date and time of recording.																																																	
N9	If monitoring indicates exceedence of the relevant limits in Table 12, then the environmental authority holder must: a) address the complaint including the use of appropriate dispute resolution if required; or b) immediately implement vibration abatement measures so that vibration from the activity																																																	

does not result in further environmental nuisance.

Table 12 (Vibration limits)

Location	Vibration measured at a sensitive place
	Monday to Friday 7am - 6pm
	Saturday, Sunday, and public holidays 9am - 6pm
Sensitive place	25mm/s peak particle velocity for vibrations of more than 35Hz
	10mm/s peak particle velocity for vibrations equal to or less than 35Hz
Commercial place	25mm/s peak particle velocity for vibrations of more than 35Hz
	10mm/s peak particle velocity for vibrations equal to or less than 35Hz

Agency interest: Land																																																							
Condition number	Condition																																																						
L1	Rehabilitation Landform Criteria All areas significantly disturbed by mining activities must be rehabilitated to the final land description as defined in Table 13. Table 13 (Rehabilitation Landform Criteria) <table border="1"> <thead> <tr> <th>Tenure No</th><th>Disturbance type</th><th>Disturbance area (ha)</th><th>Pre-mine land description</th><th>Post-mine land description</th><th>Post mine land capability / suitability classification</th><th>Analogue site (GDA94)</th></tr> </thead> <tbody> <tr> <td>Far Fanning ML1349</td><td>Open Pits</td><td>10.56</td><td>Class VII (Low Intensity Grazing)</td><td>Water Filled Void</td><td>Void/ Stock Water Dam</td><td></td></tr> <tr> <td>ML1350</td><td>Waste Dumps</td><td>20.90</td><td>Class VII (Low Intensity Grazing)</td><td>Revegetated Waste Dump</td><td>Class VII (Low Intensity Grazing)</td><td>FFAS Latitude: - 19.6714829687 Longitude: 146.384224848</td></tr> <tr> <td>ML1351</td><td>Top Soil Stockpiles</td><td>1.15</td><td>Class VII (Low Intensity Grazing)</td><td>Revegetated Area</td><td>Class VII (Low Intensity Grazing)</td><td>FFAS Latitude: - 19.6714829687 Longitude: 146.384224848</td></tr> <tr> <td>ML1437</td><td>Dams</td><td>1.87</td><td>Class VII (Low Intensity Grazing)</td><td>Dam</td><td>Stock Water Dam</td><td></td></tr> <tr> <td>ML1438</td><td>ROM Pad</td><td>3.06</td><td>Class VII (Low Intensity Grazing)</td><td>Revegetated Waste Dump</td><td>Class VII (Low Intensity Grazing)</td><td>FFAS Latitude: - 19.6714829687 Longitude: 146.384224848</td></tr> <tr> <td></td><td>Spent Heap Leach Material</td><td>2.99</td><td>Class VII (Low Intensity Grazing)</td><td>Revegetated Waste Dump</td><td>Class VII (Low Intensity Grazing)</td><td>FFAS Latitude: - 19.6714829687 Longitude: 146.384224848</td></tr> </tbody> </table>						Tenure No	Disturbance type	Disturbance area (ha)	Pre-mine land description	Post-mine land description	Post mine land capability / suitability classification	Analogue site (GDA94)	Far Fanning ML1349	Open Pits	10.56	Class VII (Low Intensity Grazing)	Water Filled Void	Void/ Stock Water Dam		ML1350	Waste Dumps	20.90	Class VII (Low Intensity Grazing)	Revegetated Waste Dump	Class VII (Low Intensity Grazing)	FFAS Latitude: - 19.6714829687 Longitude: 146.384224848	ML1351	Top Soil Stockpiles	1.15	Class VII (Low Intensity Grazing)	Revegetated Area	Class VII (Low Intensity Grazing)	FFAS Latitude: - 19.6714829687 Longitude: 146.384224848	ML1437	Dams	1.87	Class VII (Low Intensity Grazing)	Dam	Stock Water Dam		ML1438	ROM Pad	3.06	Class VII (Low Intensity Grazing)	Revegetated Waste Dump	Class VII (Low Intensity Grazing)	FFAS Latitude: - 19.6714829687 Longitude: 146.384224848		Spent Heap Leach Material	2.99	Class VII (Low Intensity Grazing)	Revegetated Waste Dump	Class VII (Low Intensity Grazing)	FFAS Latitude: - 19.6714829687 Longitude: 146.384224848
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L2	Progressive rehabilitation must commence when areas become available within the operational land.															
L3	Rehabilitation Outcome Areas which are to be progressively rehabilitated to grazing pasture must comply with the following outcomes; a) generate a self sustaining vegetation with projective cover, species composition and species distribution comparable and similar to the relevant analogue site(s); and b) landforms are stable with rates of erosion comparable and similar to the relevant analogue sites; and c) a measure of productivity (e.g. sustainable dry matter production, stock live weight gain) are comparable to relevant analogue sites.															
L4	Dams containing hazardous waste The construction or operation of any dam containing hazardous waste must comply with Table 14. Table 14 (Size and purpose of dams containing hazardous waste) <table><tr><th>Name of dam containing hazardous waste</th><th>Maximum surface area of dam (ha)</th><th>Maximum volume of dam (m³)</th><th>Maximum depth of dam (m)</th><th>Purpose of dam</th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>						Name of dam containing hazardous waste	Maximum surface area of dam (ha)	Maximum volume of dam (m³)	Maximum depth of dam (m)	Purpose of dam					
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L5	Any dam containing hazardous waste constructed or operated must be located within the control points defined in Table 15. Table 15 (Location of dams containing hazardous waste) <table><tr><th>Name of dam containing hazardous waste</th><th>Latitude (GDA94)</th><th>Longitude (GDA94)</th></tr><tr><td></td><td></td><td></td></tr></table>						Name of dam containing hazardous waste	Latitude (GDA94)	Longitude (GDA94)							
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L6	All high hazard dams containing hazardous waste must comply with the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste.
L7	All low hazard dams containing hazardous waste must comply with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Leases.
L8	Inspection of Dams High hazard dams containing hazardous waste shall be inspected by a Registered Professional Engineer (RPEQ) on or about 1st October but definitely before 1st November each year or at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.
L9	For each inspection, the engineer shall assess the condition of the dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety.
L10	For each inspection, two copies of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.
L11	Decommissioning of Dams Dams containing hazardous waste must not be abandoned, must be decommissioned to a situation where water can no longer be stored in the dams and the dams and their contained waste(s) are stable, whereafter the dams are no longer dams and they become landforms on the operational land and must comply with the rehabilitation requirements of this Environmental Authority.
L12	Decommissioning of Dams – Documentation and Compliance Decommissioning activities for dams must be documented in detail in the plan of operations under which the activities are to occur. Where the detailed documentation is not already contained in the Design Plan for the dam, the detailed documentation is considered to be an amendment to the design plan and must be submitted as an amendment to the design plan required by the Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste.
L13	Residual Void Outcome Residual voids must not cause any serious environmental harm to land, surface waters or any recognised ground water 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.
L14	Acid Rock Drainage Management Subject to the release limits defined in the conditions of this environmental authority, all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any ground water or water course.

L15	Infrastructure All infrastructure, 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 in writing by the post mining land owner / holder.
L16	Complaint Response 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.

Agency interest: Waste	
Condition number	Condition
W1	Storage of Tyres Tyres stored awaiting disposal or transport for take-back and, recycling, or waste-to-energy options - should be stockpiled in volumes less than 3m in height and 200 sq.m in area and at least 10m from any other tyre storage area.
W2	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.
W3	Disposal of Tyres Where practicable, scrap tyres resulting from the mining activities can be disposed of in underground stopes provided this practice does not cause an unacceptable fire risk or compromise mine safety.
W4	Disposing of scrap tyres resulting from the mining activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable.
W5	Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.
W6	Re-processing of Low Grade Ore Before the use of any re-processed material onsite, the holder of the environmental authority must demonstrate that the material is fit for purpose.
W7	All potentially acid forming waste rock must be returned to the open pit or be encapsulated in the waste rock dumps at the end of the re-processing activity.
W8	Details pertaining to the requirements of conditions W6 and W7 must be recorded and kept until this environmental authority is surrendered and made available to the administering authority upon request.
W9	All re-processed material must be: a) stored in and disposed of in a manner that prevents the generation and/or release of contaminants to the receiving environment; and b) treated as potentially acid forming, saline mine drainage or neutral mine drainage forming until demonstrated otherwise in accordance with condition W6.

Definitions

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

Definitions:	
Word / phrase	Meaning
Acceptance criteria"	means the measures by which the actions implemented to rehabilitate the land are deemed to be complete (same as completion criteria).
Airblast overpressure	means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dB).
Ambient (or total) noise	at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.
Appropriately qualified person	means any person who conforms to the EPA operational policy for an "appropriately qualified person (analyst)" in accordance with Section 490(7) of the <i>Environmental Protection Act 1994</i> .
ARD	means acid rock drainage and refers to the low pH, high heavy metal pollutant typical of sulphidic mine wastes, and most commonly associated with the production of ferrous iron and sulphuric acid through the oxidation of sulphide minerals.
Authority	means environmental authority (mining activities) under the <i>Environmental Protection Act 1994</i> .
Blasting	means the use of explosive materials to fracture- (a) rock, coal and other minerals for later recovery; or (b) structural components or other items to facilitate removal from a site or for reuse.
Climax community	flora and fauna communities have attained a stable biological diversity and have reached equilibrium with the surrounding ecosystems.
Commercial place	means a place used as an office or for business or commercial purposes, other than a place within the boundaries of the operational land.
Environmental authority holder	means the holder of this environmental authority.
LA 10, adj, 10 mins	means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.
LA 1, adj, 10 mins	means the A-weighted sound pressure level, (adjusted for tonal character and

	impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.
LA, max adj, T	means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.
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.
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.
Peak particle velocity (ppv)	means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms^{-1}).
Protected area	means - a protected area under the <i>Nature Conservation Act 1992</i> ; or - a marine park under the <i>Marine Parks Act 2004</i> ; or - a World Heritage Area.
Progressive rehabilitation	means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.
Rehabilitation	the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.
Representative	means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.
Self sustaining	means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by

	the administering authority.
Significant disturbance	includes - 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.
Significantly disturbed land	Land is significantly disturbed if – a. it is contaminated land; or b. it has been disturbed and human intervention is needed to rehabilitate it and includes: - 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. 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 administering authority, areas previously significantly disturbed which have not achieved the rehabilitation objectives 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 administering authority; - disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.
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 <i>Nature Conservation Act 1992</i>, the <i>Marine Parks Act 2004</i> or a World Heritage Area; or - a public park or gardens; or - a place used as a workplace, an office or for business or commercial purposes which is not part of the mining activity and does not include employees accommodation or public roads.
Stable	means geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.
Waters	includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), and any under ground water, any part thereof.

END OF ENVIRONMENTAL AUTHORITY