ecoACCESS

Permit[1]

s226 & s228 Environmental Protection Act 1994

Non-Standard Environmental Authority (mining activities)

Permit number: MIM800078102

Valid From: 28-AUG-2003

Details

Permit Holder(s)	Name	Address
Principal Holder	Marlborough Nickel Pty Ltd	Level 5 251 Hay Street EAST PERTH WA 6004

Activity(s)	Activity Location(s)
Mining	ML80056 ML80057 ML80058 ML80059 ML80060 ML80061 ML80062 ML80063 ML80064 ML80065 ML80073 ML80074

Conditions of Approval

Permit details:

Authorised Mining Tenements

Tenure Type	Tenure Number
ML	80056
ML	80057
ML	80058
ML	80059
ML	80060
ML	80061
ML	80062
ML	80063
ML	80064
ML	80065
ML	80073
ML	80074

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Agency interest: Air

A1 Dust nuisance

Subject to requirement of condition A2 and condition 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 or commercial 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 condition 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 (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:
- Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990; or
- Any alternative method of sampling PM10, which may be permitted by the `Air Quality Sampling Manual' as published from time to time by the administering authority.

Note: The proponent must decide which monitoring method is appropriate in accordance with condition A3 (a) or (b) or both.

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.

A5 Odour nuisance

Subject to requirement of condition A6 and condition A7, the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining or processing activity must not cause an environmental nuisance at any sensitive place or commercial place.

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A6 When requested by the Administering Authority, odour 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.

A7 If the environmental authority holder can provide evidence through monitoring that any of the limits in Attachment 1 Table A1 Air Quality Indicators and Goals is not being exceeded then the holder is not in breach of condition A5.

Note: See Attachment 1 for Table A1 Air Quality Indicators and Goals.

A8 If monitoring indicates condition A5 is not being met then the environmental authority holder must:

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

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

A9 Point source release of contaminants to the atmosphere

Contaminants must not be released to the atmosphere other than:

(a) those contaminants listed in Attachment 1 Table A2 Release of contaminants;

(b) from the release point(s) of minimum height(s) and at minimum velocity listed in Attachment 1 Table A2 Release of contaminants;

(c) in accordance with the contaminant maximum release limit and monitoring frequency criteria shown in Attachment 1 Table A2 Release of contaminants; and

(d) directed vertically upwards with no impedance.

Note: See Attachment 1 for Table A2 Release of contaminants.

A10 Air emission investigation

Prior to final design of the processing plant, complete investigation into potential air emissions and submit to the administering authority a report include the following:

(a) characteristics of the releases of contaminants to air from the plant;

(b) air dispersion modeling; and

(c) monitoring of releases to air.

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Agency interest: General

G1 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.

Note: The calculation of financial assurance for condition G1 must be in accordance with Guideline 17 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).

G2 The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

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.

G3 Maintenance of measures, plant and equipment

The environmental authority holder must ensure:

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

(b) that such measures, plant and equipment are maintained in a proper condition; and

(c) that such measures, plant and equipment are operated in a proper manner.

G4 Monitoring

Record, compile and keep 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.

G5 Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.

G6 Spillage of all chemicals and fuels 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.

G7 Definitions

Words and phrases used throughout this EA are defined in Attachment 2 Environmental authority word

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definitions for non-standard mining projects. 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 Environmental Protection Act 1994, its Regulations and Environmental Protection Policies must be used.

G8 Develop a Cultural Heritage Management Programme and submit to the administering authority two months before the commencement of construction or mining activities.

G9 Include in each plan of operations following submission of the Cultural Heritage Management Programme (CHMP), an action program to implement the control strategies in the CHMP.

G10 The environmental authority holder must comply with each of the Standard Environmental Conditions contained in the Code of Environmental Compliance for Exploration and Mineral Development Projects January 2001 when conducting, maintaining and rehabilitating exploration activities on those parts of mining leases not subject to active mining at the time.

Agency interest: Land

L1 Riparian buffers

Before any mining commences project access corridors must be determined and 40 m minimum width buffer zones limiting project disturbance and access to environmental monitoring and exploration must be retained on either side of the following watercourses:

(a) Marlborough Creek;

(b) Devlin Creek;

(c) Spring Creek; and

(d) Mountain Hut Creek.

L2 A register of audited Permits to Disturb must be maintained by the site Environmental Officer (EO). Each permit shall include the following:

(a) details of proponent and justification for disturbance;

(b) status of weeds and threatened species;

(c) location relative to buffer zones;

(d) proposed topsoil management and sediment controls;

(e) inspection before disturbance and authorisation for disturbance by site EO; and

(f) inspection and sign-off by site EO after disturbance to ensure compliance with conditions of each permit to disturb.

L3 All areas significantly disturbed by mining activities must be rehabilitated to a stable landform with a

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self-sustaining vegetation cover in accordance with Attachment 1 Table L1 Final land use, landform design criteria and rehabilitation approval schedule.

Note: See Attachment 1 for Table L1 Final land use, landform design criteria and rehabilitation approval schedule.

L4 Progressive rehabilitation must commence when areas become available within the operational land.

L5 Grazing pasture outcome

Areas which are to be rehabilitated to grazing native pasture must comply with the following outcomes:

(a) generate a self sustaining vegetation with projective cover, species composition and species distribution similar to an analogue site to be selected on the same soil type before disturbance of the areas;

(b) all areas disturbed by mining activities must be rehabilitated to a stable landform; and

(c) dry matter production are similar to the analogue site selected for (a).Note: Analogue sites must be provided in the plan of operations before mining commences.

L6 Native ecosystem outcome

Areas which are to be progressively rehabilitated to native ecosystems must comply with the following outcomes:

(a) achievement of a self sustaining native ecosystem with species composition and distribution similar to an analogue site to be selected on the same soil type before disturbance of the areas;

(b) all areas disturbed by mining activities must be rehabilitated to a stable landform; and

(c) landforms are stable and have been reshaped as close as practicable to the aspect orientation of the selected analogue site.

Note: Locations of analogue sites must be provided in the plan of operations before any mining commences.

L7 Complete an investigation into rehabilitation of disturbed areas and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in conditions L3 and L4 and the landform design criteria in Attachment 1 Table L1 Final land use, landform design criteria and rehabilitation approval schedule within 4 (four) years of the commencement of mining.

Note: See Attachment 1 for Table L1 Final land use, landform design criteria and rehabilitation approval schedule.

L8 Residual void outcome

1 Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Environmental Protection Agency and the Queensland Parks and Wildlife Service.

Residual voids must comply with the following outcomes:

a) residual voids must not cause any serious environmental harm to land, surface waters or any recognized 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; and

b) residual voids must comply with criteria in Attachment 1 Table L2 Residual void design criteria.

Note: See Attachment 1 for Table L2 Residual void design criteria.

L9 Complete an investigation into residual voids and submit a report to the administering authority proposing acceptance criteria to meet the outcomes in Attachment 1 Table L2 Residual void design criteria within 5 (five) years of the commencement of mining operations.

Note: See Attachment 1 for Table L2 Residual void design criteria.

L10 Dams / facilities containing hazardous waste

The construction and operation of any dam or facility containing hazardous waste within the operational land must comply with Attachment 1 Table L3 Size and purpose of dam(s) / facilities containing hazardous waste.

Note: See Attachment 1 for Table L3 Size and purpose of dam(s) / facilities containing hazardous waste.

L11 The location of any dam / facility containing hazardous waste within the operational land must be within the polygonal area defined by the co-ordinates defined in Attachment 1 Table L4 Location of dam(s) / facilities containing hazardous waste.

Note 1: See Attachment 1 for TableL4 Location of dam(s) / facilities containing hazardous waste.

Note 2: A map of the proposed locations of dam(s) / facilities containing hazardous waste shall be provided in the plan of operations before construction.

L12 The holder of the environmental authority must design, construct and operate all high-hazard dams containing hazardous in accordance with the Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste.

L13 The holder of the environmental authority must design, construct and operate all low-hazard dams containing hazardous waste and non-hazardous dams in accordance with the criteria outlined in Appendix B of the Code of Environmental Compliance for Mining Lease Projects.

L14 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.

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Note: *This exception is not applicable where the landowner / holder is also the environmental authority holder.

Agency interest: Noise

N1 Noise nuisance

Subject to requirement of condition N2 and condition N3 noise from the mining activity must not cause an environmental nuisance, at any sensitive place or commercial 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 Attachment 1 Table N1 Noise limits and Table N2 Airblast overpressure limits 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.

Note: See Attachment 1 for Table N1 Noise limits and Table N2 Airblast overpressure limits.

N4 If monitoring indicates exceedence of the limits in Attachment 1 Table N1 Noise limits or Table N2 Airblast overpressure limits, 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.

Note: See Attachment 1 for Table N1 Noise limits and Table N2 Airblast overpressure limits.

N5 The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

N6 Vibration nuisance

Subject to requirements of condition N7 and condition N8 vibration from the mining activity must not

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cause an environmental nuisance, at any sensitive place or commercial 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 Attachment 1 Table N3 Vibration limits, are not being exceeded then the holder is not in breach of condition 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.

Note: See Attachment 1 for Table N3 Vibration limits.

N9 If monitoring indicates exceedence of the relevant limits in Attachment 1 Table N3 Vibration limits, 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.

Note: See Attachment 1 for Table N3 Vibration limits.

Agency interest: Social

S1 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

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 3 m in height and 200 sq.m in area and at least 10 m 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 10 m radius of the scrap tyre storage area.

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Agency interest: Water

WA1 Release to waters

Storm water contaminated by the mining activity disturbance other than road access must be treated in a sediment dam(s) of a minimum capacity of 1500 m3 per hectare of disturbance before release (sediment dam size criteria).

WA2 Receiving waters affected by the release of storm water contaminated by the mining activities must be monitored at the locations and frequencies defined in Attachment 1 Table WA1 Receiving water monitoring locations and frequency and comply with the contaminant limits defined in Attachment 1 Table WA2 Receiving water contaminant limits.

Note 1: No release of process water to the environment is authorised by this environmental authority.

Note 2: See Attachment 1 for Table WA1 Receiving water monitoring locations and frequency, and Table WA2 Receiving water contaminant limits.

Note 3: A map showing surface water monitoring locations shall be provided in plan of operations.

WA3 End of pipe releases of storm water contaminated by mining activities must be monitored at the locations and frequencies defined in Attachment 1 Table WA3 End of pipe monitoring locations and frequency and comply with the contaminant limits defined in Table WA4 End of pipe contaminant release limits.

Note 1: See Attachment 1 for Table WA3 End of pipe monitoring locations and frequency, and Table WA4 End of pipe contaminant release limits.

Note 2: No release of process water to the environment is authorised by this environmental authority.

Note 3: Each tributary and the locations of monitoring points shall be identified and co-ordinates and a map showing surface water monitoring locations shall be provided in the plan of operation before mining commences.

WA4 Complete an investigation into the release of contaminated storm water from areas disturbed by mining and submit a report to the administering authority evaluating the success of sediment dam size criteria in condition WA1 to meet the limits in conditions WA2 and WA3 within two months following two wet seasons after commencement of mining.

WA5 Tailings dams / storage facilities, evaporation dams and process water dams

The tailings dam / storage area and evaporation dams must be fenced and measures implemented to prevent access by all livestock and minimise access by fauna to the tailings dam / storage facilities, evaporation dams or process water dams.

WA6 The design storage allowance on 1st November of each year for any dam / storage facility containing hazardous waste constructed or operated within the operational land must comply with Attachment 1 Table WA5 Storage design for dams containing hazardous waste.

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Note: See Attachment 1 for Table WA5 Storage design for dams containing hazardous waste.

WA7 The spillway for any dam or storage facility 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 Attachment 1 Table WA5 Storage design for dams containing hazardous waste.

Note: See Attachment 1 for Table WA5 Storage design for dams containing hazardous waste

WA8 The spillway of the evaporation ponds constructed or operated within the operational land must be designed and maintained to be higher than the 1 in 10,000 year ARI flood level for the Fitzroy River.

WA9 The holder of the environmental authority must mark the mandatory reporting level defined in Attachment 1 Table WA5 Storage design for dams containing hazardous waste on the spillway of all dams or storage facilities containing hazardous waste within the operational land.

Note: See Attachment 1 for Table WA5 Storage design for dams containing hazardous waste.

WA10 The holder of the environmental authority must notify the administering authority when the pondage level of the dam containing hazardous waste, reaches the mandatory reporting level defined in Attachment 1 Table WA5 Storage design for dams containing hazardous waste.

Note: See Attachment 1 for Table WA5 Storage design for dams containing hazardous waste.

WA11 All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.

WA12 All effluent released from a sewage treatment plant must be monitored at the frequency and for the parameters and comply with the limits specified in Attachment 1 Table WA6 Sewage effluent quality limits for dust suppression and irrigation.

Note: See Attachment 1 for Table WA6 Sewage effluent quality limits for dust suppression and irrigation.

WA13 Subject to condition WA12, effluent from sewage treatment plant must be reused or evaporated and must not be directly released from the sewage treatment plant to any water way or drainage line.

WA14 Groundwater monitoring

Groundwater potentially affected by mining and / or processing activities must be monitored at the locations and frequencies defined in Attachment 1 Table WA7 Groundwater monitoring locations and frequency.

Note: See Attachment 1 for Table WA7 Groundwater monitoring locations and frequency.

WA15 Groundwater investigation

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Before tailings cells, evaporation ponds and process plant are constructed complete an investigation into any potential impacts on groundwater and submit a report to the administering authority proposing:

(a) locations of monitoring bores and monitoring frequency to monitor the potential impacts from tailings cells, evaporation ponds and process plant for inclusion in Table WA7 Groundwater monitoring locations and frequency; and

(b) groundwater parameters / contaminants and respective trigger levels and limits.

Note: See Attachment 1 for Table WA7 Groundwater monitoring locations and frequency.

WA16 The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual.

Signed

Cliff Jones
Environmental Protection Agency
Date 31. 7. 2003

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Attachment 1 Permit number MIM800078102

AIR

Table A1 Air Quality Indicators and Goals

Indicator	Air Quality Goal		
	Micrograms/m^3	Parts per million	Averaging time
Sulphur dioxide	700	0.25	10 mins
	570	0.2	1 hour
	60	0.02	1 year
Nitrogen dioxide	320	0.16	1 hour
Hydrogen sulphide	7	0.005	30 mins
Ammonia	n/a	0.6	3 mins

Table A2 Release of contaminants

Release Point	Minimum release height (m)	Minimum velocity (m/sec)	Contaminant	Maximum release limit	Monitoring frequency
Acid plant stack	60	15	SO_2	500ppm	Continuous
			NO_x	500ppm	Continuous
Ammonia re-leach stack	20	15	Ammonia	1.0g/s emission rate	Continuous

LAND

Table L1 - Final land use, landform design criteria and rehabilitation approval schedule

Disturbance Type	Projected surface area (ha)	Slope Range (%)	Pre-mining land suitability*		Post-mining land suitability*	
			Agricul-ture	Conser-vation	Agricul-ture	Conser-vation
Pit excavation	683	0 to 200 (1H:2V)	5	1	5	2
Waste Rock Dumps	289	0 to 25	5	1	5	2
Ore stockpiles	165	0 to 10	5	4	5	4
Processing plant	40 20	0 to 10 0 to 10	5 4	4 4	5 4	4 4
Tailings	500	0 to 10	5	4	5	4
Evaporation ponds	235 60	0 to 10 0 to 10	5 3	4 4	5 4	5 5
Haul roads	28	n/a	5	4	5	4
Water pipeline	4 2	n/a n/a	5 3	4 4	5 3	4 4
Construction camp	8	n/a	5	4	5	4

Note: *Land suitability determined by method in 'Land suitability assessment techniques' in Technical guidelines for the environmental management of exploration and mining in Queensland, DME, 1995.

Table L2 - Residual void design

Void Identification	Void wall - competent rock slope (max. %)	Void wall - incompetent rock slope (max. %)	Void surface area – (max. ha)
Junction south	200 (1H:2V)	100 (1H:1V)	15
Junction north	200	100	15
Coorumburra west	200	100	10
Coorumburra east	200	100	30
Slopeaway	200	100	80

Table N3 - Vibration limits

Location	Vibration measured	
	Monday to Friday 7 am - 6 pm and Saturday 7am - 6 pm	**Sundays and public holidays 9am - 5 pm**
Sensitive place	5 mm/s peak particle velocity for four (4) out of five (5) consecutive blasts and not greater than 10 mm/s peak particle velocity at any time.	5 mm/s peak particle velocity for four (4) out of five (5) consecutive blasts and not greater than 10 mm/s peak particle velocity at any time.
Commercial place	10 mm/s peak particle velocity for four (4) out of five (5) consecutive blasts and not greater than 15 mm/s peak particle velocity at any time.	

Note: The method of measurement and reporting of vibration levels must comply with the latest edition of the Environmental Protection Agency's vibration and air blast overpressure monitoring guideline.

WATER

Table WA1 - Receiving water monitoring locations and frequency

Monitoring point	Latitude (GDA 94)	Longitude (GDA 94)	Monitoring frequency
Marlborough Creek: Upstream of mining activity	See Note 2	See Note 2.	Once during each storm event.
Marlborough Creek : Downstream of mining activity	See Note 2	See Note 2.	Once during each storm event.

Note 1: This does not apply to dams containing hazardous waste.

Note 2: Locations of monitoring points to be provided in plan of operations before mining commences.

Table WA2 - Receiving water contaminant limits

Parameter	Units	Minimum	Maximum
Total suspended solids (TSS)	mg/L	n/a	TSS downstream of mining activity shall not exceed TSS upstream by greater than 10 %.

Note: This does not apply to dams containing hazardous waste.

Table WA3 - End of pipe monitoring locations and frequency

Monitoring point	Latitude (GDA 94)	Longitude (GDA 94)	Monitoring frequency
Discharge from sediment dams.	See note 2.	See note 2.	Once during each storm event.

Note 1: This does not apply to dams containing hazardous waste.

Note 2: Each tributary and the locations of monitoring points shall be identified and provided in the plan of operations before mining commences.

Table WA4 - End of pipe contaminant release limits

Parameter	Units	Minimum	Maximum
Total suspended solids	mg/L	n/a	500

Note 1: This does not apply to dams containing hazardous waste.

Note 2: No release of process water in authorised by this environmental authority.

Table WA5 - Storage design for dams containing hazardous waste

Storage Type	Design Storage Allowance	Spillway Critical Design Storm	Mandatory Reporting Level
Tailings dam / storage facility	1: 1,000 Year ARI 3 month wet season plus process inputs for the 3 month wet season	1: 10,000 Year ARI	1:10 year ARI 72hr
Process water dam	1: 1,000 Year ARI 3 month wet season plus process inputs for the 3 month wet season	1: 10,000 Year ARI	1:10 year ARI 72hr
Plant Runoff Pond	1: 10 Year ARI 3 month wet season plus process inputs for the 3 month wet season	1: 10 Year ARI	1:10 year ARI 72hr
Evaporation Ponds	1: 1,000 Year ARI 3 month wet season plus process inputs for the 3 month wet season	1: 10,000 Year ARI	1:10 year ARI 72hr

Note: ARI means annual recurrence interval.

Table WA6 - Sewage effluent quality limits for dust suppression and irrigation

Quality characteristics	Release limit	Units	Limit type	Monitoring frequency
5-day Biochemical Oxygen Demand (uninhibited)	20	mg/L	max	Quarterly
pH	6.5 to 8.5	n/a	range	Quarterly
Free Chlorine Residual	0.5 to 0.9	mg/L	max	Quarterly
Faecal Coliforms, based on the average of a minimum of five samples collected	1000	Colonies per 100 mL	max	Quarterly

Table WA7 - Groundwater monitoring locations and frequency

Monitoring point	Latitude*	Longitude*	Surface RL (m)	Monitoring frequency
CS4	-23.00.030	149.49.473	See note 1.	6 monthly
FH4	-23.01.770	149.49.500	See note 1.	6 monthly
FH2	-23.02.126	149.51.036	See note 1.	6 monthly

Note 1: Surface RL of each existing bore to be provided in the plan of operations.

Note 2: *Latitudes and longitudes in GDA 94 and also a map of locations shall be provided in the plan of operations before construction.

Attachment 2 Permit number MIM800078102

Environmental Authority word definitions for Non-Standard mining projects

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

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

"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.

"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.

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

"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.

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

"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.

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

"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.

"$L_{A\ 10,\ adj,\ 10\ mins}$" 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.

"$L_{A\ 1,\ adj,\ 10\ mins}$" 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

"$L_{A,\ max\ adj,\ T}$" 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.

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

"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.

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

- the mining activities do not or will not cause more than 10 ha of land to be significantly disturbed at any one time;
- the mining activities do not or will not cause more than 5 ha of land to be significantly disturbed at any one time;

(a) in a riverine area;

(b) because of mine workings;

- the mining activities are not or will not be carried out in, or within 2 km of a category A *Environmentally Sensitive Area;*
- the mining activities are not or will not be carried out in, or within 1 km of a category B environmentally sensitive area;
- the mining activities do not include a level 1 environmentally relevant activity
- no more than 20 persons are carrying out or will, at any one time, carry out the mining activities;

"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 *Nature Conservation Act 1992*; or

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

"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.

"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 center or hospital; or

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

"significant disturbance" – includes land

(a) if it is contaminated land; or

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

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

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

Some examples of disturbed land include:

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

However, the following areas are not included:

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

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

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

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

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