Permit

Environmental Protection Act 1994

Environmental authority P-EA-100167061

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

Environmental authority number: P-EA-100167061

Environmental authority takes effect on 01 March 2025. This is the take effect date.

The first annual fee is payable within 20 business days of the take effect date.

The anniversary date of this environmental authority is the same day each year as the take effect date. The payment of the annual fee will be due each year on this day.

Environmental authority holder(s)

Name(s)	Registered address
Mourilyan Silica Resources Pty Ltd	Level 4 100 Albert Road SOUTH MELBOURNE VIC 3205

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
ERA 50 - Mineral and bulk material handling - 2 - Loading or unloading 100t or more of bulk materials in a day, other than loading or unloading mentioned in item 3, or storing bulk materials	1/SP154718
ERA 50 - Mineral and bulk material handling - 1(a) - Loading or unloading 100t or more of minerals in a day, other than loading or unloading mentioned in item 3, or storing 50,000t or more of minerals - within 5km of the highest astronomical tide or 1km of a watercourse	1/SP154718
ERA 50 - Mineral and bulk material handling - 2 - Loading or unloading 100t or more of bulk materials in a day, other than loading or unloading mentioned in item 3, or storing bulk materials	1254/SP267800

Queensland Government

Environmentally relevant activity/activities	Location(s)
ERA 50 - Mineral and bulk material handling - 1(a) - Loading or unloading 100t or more of minerals in a day, other than loading or unloading mentioned in item 3, or storing 50,000t or more of minerals - within 5km of the highest astronomical tide or 1km of a watercourse	1254/SP267800
ERA 50 - Mineral and bulk material handling - 2 - Loading or unloading 100t or more of bulk materials in a day, other than loading or unloading mentioned in item 3, or storing bulk materials	1554/SP267800
ERA 50 - Mineral and bulk material handling - 1(a) - Loading or unloading 100t or more of minerals in a day, other than loading or unloading mentioned in item 3, or storing 50,000t or more of minerals - within 5km of the highest astronomical tide or 1km of a watercourse	1554/SP267800
ERA 50 - Mineral and bulk material handling - 2 - Loading or unloading 100t or more of bulk materials in a day, other than loading or unloading mentioned in item 3, or storing bulk materials	557/SP117968
ERA 50 - Mineral and bulk material handling - 1(a) - Loading or unloading 100t or more of minerals in a day, other than loading or unloading mentioned in item 3, or storing 50,000t or more of minerals - within 5km of the highest astronomical tide or 1km of a watercourse	557/SP117968

Additional information for applicants

Environmentally relevant activities

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

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

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

Mobile and temporary activities

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

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

Contaminated land

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

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

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

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

Take effect

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

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

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

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

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

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

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

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



Signature

12 December 2024

Date

Casey Sirl
Department of the Environment, Tourism, Science and Innovation

Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Permits and Licensing/Operation Support
GPO Box 2454, BRISBANE QLD 4001

Phone: 1300 130 372

Email: palm@des.qld.gov.au

Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

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

Obligations under the *Mining and Quarrying Safety and Health Act 1999*

If you are operating a quarry, other than a sand and gravel quarry where there is no crushing capability, you will be required to comply with the *Mining and Quarrying Safety and Health Act 1999*. For more information on your obligations under this legislation contact Mine Safety and Health at www.resources.qld.gov.au, or phone 13 QGOV (13 74 68) or your local Mines Inspectorate Office.

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment and Science to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

<table>
<tr><th colspan="2">Agency interest: General</th></tr>
<tr><td>Condition number</td><td>Condition</td></tr>
<tr><td>G1</td><td>Any breach of a condition of this environmental authority must be reported to the administering authority as soon as practicable within 24 hours of becoming aware of the breach. Records must be kept including full details of the breach and any subsequent actions taken.

The notification should include, but not be limited to:
a) the environmental authority number and name of the holder;
b) the name and telephone number of the designated contact person;
c) the location of the breach;
d) the date and time of the breach;
e) the time the holder of the environmental authority became aware of the breach;
f) where known:
i) the estimated quantity and type of substances involved in the breach;
ii) the actual or potential cause of the breach; and
iii) a description of the nature and effects of the breach including environmental risks, and any risks to public health or livestock;
g) any sampling conducted or proposed, relevant to the breach;
h) immediate actions taken to prevent or mitigate any further environmental harm caused by the breach;
i) what notification of owners and occupiers who may be affected by the breach has occurred or is being undertaken.</td></tr>
<tr><td>G2</td><td>Activities under this environmental authority must be conducted in accordance with the following limitations:
a) Bulk material handling – stockpiling, loading and unloading of iron ore;
b) Bulk material handling – stockpiling, loading and unloading of silica sand (washed);
c) Bulk material handling – stockpiling, loading and unloading of other bulk commodities as listed in Table 1 - Authorised Activities.

Table 1 - Authorised Activities
<table>
<tr><th>Authorised storage location</th><th>Material</th><th>Quantities</th></tr>
<tr><td rowspan="6">Lease R - Open Air Storage[1]</td><td>Iron Ore (lump)</td><td rowspan="6">No more than 60,000 tonnes of total material at any one time</td></tr>
<tr><td>Silica Sand (washed)</td></tr>
<tr><td>Aggregates</td></tr>
<tr><td>Wood chips (natural/untreated)</td></tr>
<tr><td>Dolomite</td></tr>
<tr><td>Limestone</td></tr>
<tr><td rowspan="11">Lease S - Storage Shed[1]</td><td>Copper concentrate</td><td rowspan="11">No more than 75,000 tonnes of total material at any one time.</td></tr>
<tr><td>Nickel concentrate</td></tr>
<tr><td>Zinc concentrate</td></tr>
<tr><td>Cobalt concentrate</td></tr>
<tr><td>Iron ore concentrate</td></tr>
<tr><td>Molybdenum concentrate</td></tr>
<tr><td>Tin concentrate</td></tr>
<tr><td>Tungsten concentrate</td></tr>
<tr><td>Vanadium concentrate</td></tr>
<tr><td>Gold concentrate</td></tr>
</table></td></tr>
</table>

	Silver concentrate Mineral sands (rutile) [1] Refer to Figure 1 Location of Lease R – Open Air Storage and Lease S - Storage Shed
G3	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by the activities.
G4	The activity must be undertaken in accordance with written procedures that: a) identify potential risks to the environment from the activity during routine operations and emergencies; b) establish and maintain control measures that minimise the potential for environmental harm; c) ensure plant, equipment and measures are maintained in a proper and effective condition; d) ensure plant, equipment and measures are operated in a proper and effective manner; e) ensure that staff are trained and aware of their obligations under the *Environmental Protection Act 1994*; f) ensure that reviews of environmental performance are undertaken at least annually; g) must be provided to the administering authority upon request.
G5	Any records kept or created in relation to this environmental authority must be: a) kept for a period of at least five years; b) provided to the administering authority on request; c) provided to the administering authority in the format requested.
G6	Records must be kept for all mineral product handling activities carried out in accordance with this environmental authority. Records must include but not be limited to: a) the mineral type; b) a safety data sheet or product assay for the specific mineral; c) the duration the mineral was handled (loaded or unloaded - including start and finish times and dates); d) the quantity of mineral handled; e) whether the activity involved loading or unloading of the mineral; f) the loading or unloading method used; g) the location or berth number at which the mineral was handled; h) for shipping activities, the name of the vessel loaded or unloaded; i) the train or truck movements.
G7	All analyses required under this environmental authority must be carried out by a laboratory that has National Association of Testing Authorities (NATA) certification, or an equivalent certification, for such analyses. The only exception to this condition is for the in-situ monitoring of pH, dissolved oxygen and turbidity.

G8

An appropriately qualified person(s) must monitor, interpret and record all quality indicators in accordance with the requirements of this environmental authority and as specified in Table 2 – Release and Monitoring Point Locations and depicted in Figure 2 – Release and Monitoring Locations.

Table 2 – Release and Monitoring Point Locations

Location[1]	Sampler Designation	Site Description	Monitoring Location (GDA94 Zone 55K)	
			Easting	Northing
Air				
Lease S Storage Shed Baghouse[2]	BH_01	Release and monitoring point	406612	8053853
Hi Vol (PM_{10}, $PM_{2.5}$ and TSP)[3]	HV 01 HV 02 HV 07[2]	R1	406494	8054199
Hi Vol (PM_{10} and $PM_{2.5}$)[3]	HV 03 HV 04	SW Boundary	406553	8054015
Hi Vol (PM_{10} and $PM_{2.5}$)[3]	HV 05 HV 06	Near the public boat ramp	406729	8053912
Dust deposition gauges	DDG 01	R1	406499	8054198
	DDG 02	R2	406551	8054010
	DDG 03	Public boat ramp	406735	8053917
	DDG 04	East of ship loading jetty	407268	8053951
	DDG 06	Adjacent to Ports North building	407110	8053968
Water – Lease R				
MW1 – Treatment plant	MW1	Release and monitoring point - End of treatment plant	406733	8053923
Water – Lease S				
MW8 – Drainage Channel [2]	MW8[2]	Release and monitoring point –– Northwest corner of Lease S	406542	8054021
Stormwater – Lease R				
MW2 – stormwater outfall	MW2	Monitoring point - stormwater outfall pipe	406834	8053931
MW4 – Upstream of treatment plant discharge	MW4	Monitoring point – Upstream of treatment	406809	8053952

		plant discharge point in stormwater outfall pipe		
Stormwater – Lease S				
MW7 – Sand Filter Outlet	MW7[2]	Monitoring point – Sand filter outlet	406541	8054006
MW9 – drainage channel[2]	MW9[2]	Monitoring point- upstream of Lease S	406565	8053862
Surface water (receiving environment)				
MW3 – edge of mixing zone	MW3	Monitoring point - 200m from MW2 – stormwater outfall	406942	8053773
MW5 – upcurrent of MW3	MW5	Monitoring point – upcurrent of MW3	406799	8053492
MW6– down current of MW3	MW6	Monitoring point – down current of MW3	407395	8053816
Sediment				
MS1A – within the mixing zone	MS1A	Monitoring point - stormwater outfall pipe discharge point	406845	8053910
MS2 – edge of mixing zone	MS2	Monitoring point - 200m from MW2 – stormwater outfall	406942	8053773

Associated monitoring requirements:
[1] Release and Monitoring Point Locations must be in accordance with sites referred to in Table 2.
[2] To commence operation following commissioning of the Lease S Storage Shed.
[3] Co-located and simultaneously run.

G9

A receiving environment monitoring program (REMP) must be designed and implemented by an appropriately qualified person(s) to monitor the effects of the activity. At a minimum the REMP must include:

a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (for example, seasonality);
b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected;
c) include monitoring from background reference sites (for example, upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table 2);
d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the *Queensland Water Quality Guidelines* 2009 (or the most recent version). This should include monitoring during periods of natural flow irrespective of site or other discharges;
e) include monitoring and assessment of pH, dissolved oxygen, turbidity and all water quality parameters listed in Table 5, 6 and 7);

	f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of AS5667.*1 Guidance on Sampling of Bottom Sediments*) (requirements as per Table 8); g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology; h) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; i) describe sampling and analysis methods and quality assurance and control; j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.
G10	A report outlining the findings of the REMP, including all monitoring results and interpretations must be prepared annually and made available on request to the administering authority.
G11	Chemicals and fuels in containers of greater than 15 litres must be stored within a secondary containment system.
G12	The holder of this environmental authority must record all environmental complaints received about the activity including: a) name, address and contact number for of the complainant; b) time and date of complaint; c) reasons for the complaint; d) investigations undertaken; e) conclusions formed; f) actions taken to resolve the complaint; g) any abatement measures implemented; h) person responsible for resolving the complaint.
G13	When required by the administering authority, monitoring must be undertaken in the manner prescribed by the administering authority to investigate a complaint of environmental nuisance arising from the activity. The monitoring results must be provided within 10 business days to the administering authority upon its request.
G14	The holder of this environmental authority must: a) obtain from an appropriately qualified person(s) a report on compliance with the conditions of this environmental authority by 1 December 2027 or another date agreed to by the administering authority; b) obtain further such reports at regular intervals, not exceeding 3 yearly intervals, from the completion of the report referred to above; and c) provide each report to the administering authority within 90 days of its completion.
G15	Transfer of mineral concentrates and bulk commodities to ships must be carried out in a manner that prevents the release of mineral concentrates and bulk commodities to land, the atmosphere or waters, unless permitted in accordance with this environmental authority.
G16	This environmental authority does not authorise environmental harm unless a condition within this environmental authority explicitly authorises that harm. Where there is no condition or the environmental authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.

G17	The environmental authority holder is authorised to receive, stockpile and handle materials authorised under this environmental authority, provided: a) such activities comply with the requirements set out in this environmental authority; b) a risk assessment is undertaken prior to receiving the material to assess if the characteristics of the material are substantially different to the characteristics of material authorised under this environmental authority; c) any contaminants identified under the risk assessment must be considered and implemented as part of the monitoring programs for air, water and sediment.
G18	Any risk assessment undertaken under Condition G17, must: a) detail additional monitoring to be undertaken and proposed period for monitoring; b) detail controls identified to manage any risks; c) be implemented to manage risk; d) be documented and made available to the administering authority upon request.
G19	Materials specified to be stored in the Lease S Storage Shed must only be stored, handled and loaded when the following controls measures are in place: a) maintain the interior of the storage facility under negative air pressure sufficient to prevent release of mineral concentrate from the building; b) all conveyors used to transport materials are fully enclosed; c) materials not transported via conveyor must be contained within fully enclosed containers; d) all emissions from the conveyors and storage facility are vented through a negative pressure filtration system, and monitored as per Table 4 – Point Source Air Release Limits from Lease S Storage Shed Baghouse.
G20	All vehicles carrying materials for storage, loading and handling in the Lease S Storage Shed must be washed in a designated wash bay with an operational water recycling system, prior to leaving the Lease S Storage Shed.
G21	Unless otherwise specified under this environmental authority: a) All monitoring must be undertaken using equipment that is effectively calibrated and maintained in accordance with the manufacturer's instructions. b) Water monitoring must be in accordance with the most recent edition of the administering authority's Water Quality Sampling Manual. c) Air monitoring must be in accordance with the most recent edition of the administering authority's Air Quality Sampling Manual. d) Noise monitoring must be in accordance with the most recent version of the administering authority's Noise Measurement Manual.
Agency interest: Air	
Condition Number	Condition
A1	Other than as permitted within this environmental authority, odours or airborne contaminants must not cause environmental nuisance to any sensitive place or commercial place.

A2

Dust and particulate matter emissions must not exceed the following concentrations at any sensitive place or commercial place or at the monitoring points specified in Table 2 - Release and Monitoring Point Locations:

a) dust deposition of 120 milligrams per square metre per day averaged over one month, when monitored in accordance with Australian Standard AS 3580.10.1 (or more recent editions), or
b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, when monitored in accordance with Australian Standard AS 3580.9.6 (or more recent editions) or any other method approved by the administering authority.
c) A concentration of particulate matter with an aerodynamic diameter of less than 2.5 micrometres (PM2.5) suspended in the atmosphere of 25 micrograms per cubic metre over a 24-hour averaging time and 8 micrograms per cubic metre over a 1 year hour averaging time, when monitored in accordance with Australian Standard AS 3580.9.14 (or more recent editions)
d) the concentrations specified in Table 3 – Air Quality and Dust Deposition Contaminant Limits.

Table 3 - Air Quality and Dust Deposition Contaminant Limits

Contaminant	Limit Type/ Measurement period	Air Quality Limit[1] µg/m^3 at 0 degrees C (except where noted)	Frequency of monitoring
Hi-Vol Sampling			
PM_{10}	24 hour average	50 µg/m^3	All monitoring and analysis must be carried out at a sufficient frequency and in accordance with a relevant methodology sufficient to produce representative results capable of comparison against the respective limits, this is at a minimum of once every six (6) days and daily cycles when ship loading operations are in progress.
PM_{10}	Annual average	25 µg/m^3	
$PM_{2.5}$	24 hour average	25 µg/m^3	
$PM_{2.5}$	Annual average	8 µg/m^3	
Respirable crystalline silica (as $PM_{2.5}$)[2]	Annual average	3 µg/m^3	
Total suspended particulates (TSP)	Annual average	90 µg/m^3	
Arsenic and compounds (measured as the total metal content in PM_{10})[4]	Annual average	0.006 µg/m^3	
Cadmium and compounds (measured as the total metal content in PM_{10})[4]	Annual average	0.005 µg/m^3	
Cobalt (measured as the total metal content in TSP)[3, 4, 5]	24 hour average	0.1 µg/m^3	
Copper (measured as the total metal content in TSP)[3, 4, 5]	24 hour average	50 µg/m^3	
Iron (metallic) (measured as the	24 hour average	4 µg/m^3	

	total metal content in TSP) [3, 4, 5]			
	Lead and compounds (measured as the total metal content in TSP) [3,4, 5]	Annual average	0.5 µg/m^3	
	Manganese and compounds (measured as the total metal content in PM_{10}) [4]	Annual average	0.16 µg/m^3	
	Nickel and compounds (measured as the total metal content in PM_{10}) [4]	Annual average	0.022 µg/m^3	
	Zinc and its compounds [3,4, 5]	24 hour average	120 µg/m^3	
	Silver (measured as the total metal content in TSP) [3, 4, 5]	24 hour average	1 µg/m^3	
	Tin (measured as the total metal content in TSP) [3, 4, 5]	24 hour average	10 µg/m^3	
	Vanadium (measured as the total metal content in TSP) [3, 4, 5]	24 hour average	2 µg/m^3	
	Dust Deposition			
	Arsenic and compounds[4, 6]	Calendar year average	4 µg/m^2/day	All monitoring and analysis must be carried out at a sufficient frequency and in accordance with a relevant methodology sufficient to produce representative results capable of comparison against the respective limits, this is at a minimum monthly.
	Cadmium and compounds[4, 6]	Calendar year average	2 µg/m^2/day	
	Leads and compounds[4, 6]	Calendar year average	100 µg/m^2/day	
	Dust deposition (total insoluble matter)	Monthly	120mg/m^2/day	

[1] Limits based on Schedule 1 of the Environmental Protection (Air) Policy 2019, unless otherwise indicated.
[2] Limit based on EPA (Victoria) State Environment Protection Policy (Air Quality Management) Mining and Extractive Industries Publication 1191 December 2007.
[3] Limit based on Ontario Guideline 2020 Ontario Ambient Air Quality Criteria.
[4] Metal analysis must be carried out in accordance with a methodology in Appendix A of AS/NZ3580.10.1.
[5] Commencement of sampling of additional metal analytes to be undertaken prior to the commissioning of mineral concentrate export operations from the Lease S Storage Shed.
[6] Limit based on Technical Instructions on Air Quality Control – TA Luft
[7] For compliance purposes, Air Quality and Dust Deposition Limits only apply at DDG 04 and DDG 06, when ship loading operations are conducting during the sampling period.

A3	Dust and particulate matter monitoring must: a) be undertaken at a frequency as per Table 3 – Air Quality and Dust Deposition Contaminant Limits; b) be carried out at places relevant to the potentially affected sensitive place or commercial place and at suitable representative reference site(s) unlikely to be affected by the activity;

	c) be carried out at a sufficient number of monitoring points to enable compliance assessment with condition A2 above; d) take into account: i) locations of dust and particulate sources; and ii) locations of persons or sites potentially affected by any release of dust or particulate matter from the activity; and iii) meteorological conditions. e) be carried out in accordance with the latest edition of the administering authority's Air Quality Sampling Manual; and in accordance with the relevant standards within AS3580.1.1 of 2016 (or more recent editions); and f) be undertaken in conjunction with the recording of precipitation, wind speed and direction in accordance with the requirements of the relevant standards within AS3580.
A4	If monitoring required by the environmental authority shows exceedance of any air quality limit specified in Table 3 and Table 4, at the air monitoring locations in Table 2 and Table 4, the environmental authority holder must complete an investigation into the exceedance and provide a written report to the administering authority within one (1) month of the environmental authority holder's receipt of the monitoring results showing an exceedance. The investigation must identify the potential cause of the exceedance taking into account the monitoring requirements of condition A3. The investigation report must describe: a) the identification to the cause of the exceedances; b) the environmental authority holder's contribution to the cause of the exceedance; c) the environmental authority holder's activities at the time of the exceedance; d) the moisture conditions of the environmental authority holder's stockpiles at the time of the exceedance; e) the investigation carried out; f) a review of the measures and procedures for the control of airborne emissions; g) actions taken or to be taken to minimise further airborne emissions. *Note: Where an exceedance of any air quality limit has occurred and is being investigated in accordance with this condition, a single investigation and report is required for subsequent continuous exceedances related to the same event. The date by which the report is required to be provided to the administering authority is the date required by the earliest exceedance.*
A5	If the environmental authority holder or an authorised person observes a visible release of dust emissions to the atmosphere from mineral concentrate during ship loading or ship unloading or storage activities, the environmental authority holder must: a) Immediately review and, where necessary, adjust operation controls. b) If visible release of dust emissions continues or are repetitive then: i) cease all relevant activities; and ii) review applicable measures for the control of airborne emissions; and iii) prior to recommencing activities, implement any reasonable identified improvements to the measures for the control of airborne emissions.
A6	Contaminants must only be released to air from the point source in accordance with Table 4 – Points Source Air Release Limits from Lease S Storage Shed Baghouse and the associated requirements.

A7

The environmental authority holder must monitor and record all releases of contaminants required by and in accordance with Table 4 – Points Source Air Release Limits and at the associated monitoring frequency.

Table 4 – Point Source Air Release Limits from Lease S Storage Shed Baghouse

Authorised release point (GDA94, Zone 55K)			Contaminant	Minimum release height (m)	Minimum velocity (m/sec)	Maximum release limit	Monitoring frequency
Point Source	Easting	Northing					
Lease S Storage Shed	406612	8053853	TSP	20	16	50 mg/m^3	Once every Calendar year
			Total Metals			10 mg/m^3	

Associated requirements:
a) Australian Standard 4323.1 Stationary source emissions: Selection of sampling positions.
b) Australian Standard 4323.2 Stationary source emissions: Determination of total particulate matter – Isokenetic manual sampling – gravimetric method.

Agency interest: Water

Condition Number	Condition
W1	Other than as permitted within this environmental authority, contaminants must not be released to any waters.
W2	Any water that has been in contact with materials or equipment inside the negative pressure shed must not be released to the receiving environment.
W3	Contaminants must not be released to groundwater or at a location where they are likely to release to groundwater.
W4	The only contaminants to be released to surface waters are treated water in accordance with Table 5 – Release Limits and the associated monitoring requirements, when measured at the monitoring points MW1 and MW8.

Table 5 – Release Limits

Quality Characteristics	Release Limits MW1 and MW8	Monitoring Frequency
TSS[3]	50mg/L	At the commencement of release[4, 5], daily for a week and weekly thereafter during release.
pH[3]	6.0 – 9	
Turbidity	For interpretation purposes	
Dissolved Oxygen	For interpretation purposes	
Aluminium[2]	240µg/L	
Copper[1]	100µg/L	
Cadmium[1]	50µg/L	
Lead[1]	100µg/L	
Manganese[2]	800µg/L	
Nickel[1]	2,000µg/L	
Zinc[1]	2,000µg/L	

Arsenic (V) [2]	45 µg/L	
Cobalt[2]	10µg/L	
Silver[2]	14µg/L	
Tin[2]	350 µg/L	
Vanadium[2]	1000µg/L	

Note: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).
[1] Quality characteristic values have been based on expected plant performance data and are total calculations.
[2] Quality characteristic values have been based on 10 times the dissolved limit from Table 7 - Receiving Environment Water Quality Criteria and are total calculations.
[3] Quality characteristic values have been based on Technical guideline Wastewater release to Queensland waters
[4] The first sample must be taken as soon as practicable, but within one (1) hour of commencement of release.
[5] A composite sample can be used for the initial sampling event but must constitute at least three samples over no more than a one (1) hour period.

W5 The daily quantity of water discharged from release points MW1 and MW8 must be measured using a calibrated flow meter and recorded.

W6 The quality of stormwater and surface waters must be monitored at the location specified in Table 2 – Release and Monitoring Point Locations for the quality characteristics and at the frequency specified in Table 6 – Monitoring Requirements.

Table 6 – Monitoring Requirements

Quality Characteristics	Monitoring Point	Monitoring Frequency
TSS pH Turbidity Dissolved oxygen Aluminium Copper Cadmium Lead Manganese Nickel Zinc Arsenic Cobalt Silver Tin Vanadium	**Stormwater – Lease R** MW2 – stormwater outfall MW4 – Upstream of treatment plant discharge **Stormwater – Lease S** MW7– Sand Filter Outlet MW9 – drainage channel **Surface water (receiving environment)** MW3 – edge of mixing zone MW5 – upcurrent of MW3 MW6– down current of MW3	Monitoring points (stormwater) - at the commencement of release[1], daily for a week and weekly thereafter during release. Monitoring points (surface water) - Once per month and at the commencement of release[1], daily for a week and weekly thereafter during release.

[1] The first sample must be taken as soon as practicable, but within Twenty-Four (24) hours of commencement of release.

Notes:

- *All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).*
- *Monitoring must be in accordance with the methods prescribed in the current edition of the Department of Environment and Science Water Quality Sampling Manual unless otherwise specified in this approval.*
- *All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions.*

W7

Releases to waters from the activity must not cause an exceedance of the water quality criteria as stated in Table 7 – Receiving Environment Water Quality Criteria when measured at any surface water (receiving environment) monitoring locations referenced in Table 2 – Release and Monitoring Point Locations.

Table 7 – Receiving Environment Water Quality Criteria

Quality Characteristics	Limit[1]	Monitoring Point	Monitoring Frequency
TSS	TBA*	**Surface water (receiving environment)** MW3 – edge of mixing zone MW5 – upcurrent of MW3 MW6– down current of MW3	Monitoring points (surface water) - Once per month and at the commencement of release[4], daily for a week and weekly thereafter during release.
pH	6.5-8.4[2]		
Turbidity	20 NTU[2]		
Dissolved oxygen	80-105 % saturation		
Aluminium	24µg/L[3]		
Cadmium	5.5µg/L		
Copper	1.3µg/L		
Lead	4.4µg/L		
Manganese	80µg/L		
Nickel	70µg/L		
Zinc	15µg/L		
Arsenic	4.5µg/L		
Cobalt	1µg/L		
Silver	1.4µg/L		
Tin	35µg/L		
Vanadium	100µg/L		

Associated monitoring requirements:
[1] Contaminant release limits are based on dissolved fraction and ANZECC (2000), unless otherwise indicated
[2] Release limit based on Queensland Water Quality Guidelines.
[3] Derivation of a water quality guideline for aluminium in marine waters Golding et al. 2014.
[4] The first sample must be taken as soon as practicable, but within twenty-four (24) hours of commencement of release.

* The results of the first six monitoring events or the first 6 months of monitoring data, whichever is sooner, must be submitted to the administering authority to establish release limits for these parameters.

Notes:
- *All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered).*
- *Monitoring must be in accordance with the methods prescribed in the current edition of the Department of Environment and Science Water Quality Sampling Manual unless otherwise specified in this approval.*
- *All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions.*

W8

The release of contaminants directly or indirectly to waters:

a) Must not produce any visible discolouration of receiving waters; or

b) Must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals, visible floating oil, grease, scum, litter or other objectionable matter.

W9	Sediment quality must be monitored every six (6) months at the locations specified and for parameters defined in Table 8 - Sediment Contaminant Locations and Contaminant Levels. **Table 8 – Sediment Contaminant Locations and Contaminant Levels** **Location** / **Parameter** / **Unit[2]** / **Contaminant Limit[1]** MS1A, MS2 / Total cadmium[3] / mg/kg / 1.5 Total copper[4] / mg/kg / 270 Total lead[3] / mg/kg / 50 Total zinc[3] / mg/kg / 200 [1] Sediment concentrations are to be standardised to the <63 µm size fraction. [2] All determinations are reported as mg/kg on a dry weight basis. [3] Contaminant limits for stream sediment are based on ANZECC 2000 Table 3.5.1 Recommended Sediment Quality Guidelines (ISQG- Low). [4] Contaminant limits for stream sediment are based on ANZECC 2000 Table 3.5.1 Recommended Sediment Quality Guidelines (ISQG- High).
W10	Releases of contaminants must not result in an exceedance of sediment contaminant levels stated in Table 8 – Sediment Contaminant Locations and Contaminant Levels at any sediment monitoring locations referenced in Table 2 – Release and Monitoring Point Locations.
W11	All sediment sampling must be undertaken in accordance with the most recent version of AS/NZS5667.12 Guidance on Sampling of Bottom Sediments.
Agency interest: Noise	
Condition Number	Condition
N1	Other than as permitted within this environmental authority, noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place.
N2	Noise from the activity must not exceed the levels identified in Table 9 – Noise Limits and the associated requirements at any nuisance sensitive place or commercial place. **Table 9 – Noise Limits** **Noise level dB(A) measured as:** / **Day** / **Evening** / **Night** **7am – 6pm** / **6pm – 10pm** / **10pm – 7am** **Noise measured outside a 'Noise sensitive place'** LAeq,adj,1hour / 42 / 42 / 37 LAmax,1hour / NA / NA / 49 **Noise measured outside a 'Commercial place'** LAeq,adj,1hour / 60 / 60 / 60 LAeq,adj,1hour means an A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character and impulsiveness of the sound, that within a 1 hour period has the same mean square sound pressure of a sound that varies with time. LAmax,1hour means the maximum A-weighted sound pressure level measured over a time period of 1 hour.

N3	When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results notified within fourteen (14) days to the administering authority. Monitoring must include: a) LAeq, adj, T; b) Background noise (Background) as LA 90, adj, T; c) MaxLpA,T; d) the level and frequency of occurrence of any impulsive or tonal noise; e) atmospheric conditions including wind speed and direction; f) effects due to extraneous factors such as traffic noise; g) location, date and time of recording.
N4	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's noise measurement manual.
Agency interest: Land	
Condition Number	Condition
L1	Other than as permitted within this environmental authority, contaminants must not be released from the approved place to land.
L2	Acid sulfate soils must be managed such that contaminants are not directly or indirectly released from the works to any waters.
L3	Treatment and management of acid sulfate soils must comply with the latest edition of the Queensland Acid Sulfate Soil Technical Manual.
L4	Provide a Rehabilitation Plan to the administering authority for consideration prior to cessation of the activity that details, but is not limited to, measures and actions to be taken in relation to: a) potential for erosion is minimised; b) the quality of **water**, including seepage, released from the site does not cause environmental harm; c) potential for environmental nuisance caused by dust is minimised; d) the water quality of any residual water body does not have potential to cause environmental harm; e) the final landform is stable and protects public safety; f) the contaminant concentrations on the former stockpile site and Storage Shed are in accordance with the 'National Environmental Protection (Assessment of Soil Contamination) Measure 1999; g) Progressively monitor the rehabilitation and undertake maintenance to ensure that the site will achieve a safe, stable and non-polluting landform.
Agency interest: Waste	
Condition Number	Condition
M1	All waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.
M2	Incompatible wastes must not be mixed in the same container or waste storage area
M3	Waste must not be indirectly or directly released from the activities to any waters.

Definitions

Key terms and/or phrases used in this document are defined in this section. 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.

Activity means the environmentally relevant activities, whether resource activities or prescribed activities, to which the environmental authority relates.

Administering authority means the Department of Environment, Science and Innovation or its successor or predecessors.

Appropriately qualified person(s) means a person or persons who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

Approved place means proposed location of the **activity** area associated with the storage, transport and loading of magnetite as indicated in Figure 1 at Mourilyan Boat Harbour on Lot 1254 Plan SP267800, Lot 1554 Plan SP267800, Lot 1 SP267800 and Lot 557 Plan SP117968.

Background means noise, measured in the absence of the noise under investigation, as $L_{A90,T}$ being the A-weighted sound pressure level exceeded for 90 percent of the time period of not less than 15 minutes, using Fast response.

Boundary means within 1m of the cadastral **boundary** of the **approved place**.

Certification, certifying or **certified** by an appropriately qualified and experienced person in relation to a design plan or an annual report regarding dams/structures, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

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

Commercial place means a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

Environmental nuisance as defined under Chapter 1 of the *Environmental Protection Act 1994.*

Environmental value as defined under Chapter 1 of the *Environmental Protection Act 1994.*

Incompatible waste means waste that may chemically react when:
1. placed in proximity to other wastes; and/or
2. mixed with other wastes.

$LAeq_{adj,T}$ means the adjusted A weighted equivalent continuous sound pressure level measures on fast response, adjusted for tonality and impulsiveness, during the time period T, where T is measured for a period no less than 15 minutes when the **activity** is causing a steady state noise, and no shorter than one hour when the approved **activity** is causing an intermittent noise.

Lease R Open Air Storage, refer to Figure 1.

Lease S Storage Facility is a fully enclosed storage facility under negative air pressure, refer to Figure 1.

Max$L_{pA,T}$ means the maximum A-weighted sound pressure level measured over a time period T of not less than 15 minutes, using Fast response.

Measures have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

Mixing zone is defined as a 200m circular area surrounding the stormwater outfall discharge point (MW2) as described in Figure 2.

NATA means National Association of Testing Authorities.

Offensive means causing offence or displeasure; is unreasonably disagreeable to the sense; disgusting, nauseous or repulsive.

contaminants means contaminants listed within Schedule 9 of the *Environmental Protection Regulation* 2008.

Rehabilitation the process of reshaping and revegetating land to restore it to a stable landform.

Release of a contaminant into the environment includes:
1) to deposit, discharge, emit or disturb the contaminant; and
2) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
3) to fail to prevent the contaminant from being deposited, discharged emitted or disturbed; and
4) to allow the contaminant to escape; and
5) to fail to prevent the contaminant from escaping.

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:
1) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
2) a motel, hotel or hostel; or
3) a kindergarten, school, university or other educational institution; or
4) a medical centre or hospital; or
5) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
6) a public thoroughfare, park or gardens; or
7) for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.

You means the holder of the environmental authority.

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

Figure 1 - Location of Lease R (Open Air Storage) and Lease S (Storage Shed)



Figure 2 - Release and Monitoring Locations



END OF ENVIRONMENTAL AUTHORITY