



Model operating conditions (Air)

Port of Townsville ERA 50 (1) Bulk Material Handling—Minerals



Version history

Version	Date	Description of changes
1.00	18 March 2019	First published version of the document.
1.01	31 January 2020	Documented updated to reference: Environmental Protection Regulation 2019; Environmental Protection (Air) Policy 2019; Environmental Protection (Noise) Policy 2019, plus other minor amendments.
1.02	22 February 2024	Document rebranded to align with machinery of government changes.

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March 2019

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Overview

This document provides advice to potential environmental authority (EA) holders on the air conditions that will be applied to their EA if a site-specific application is made for the handling of bulk minerals in the Port of Townsville. In addition to these conditions the administering authority has developed:

1. model operating conditions for some prescribed environmentally relevant activities (ERAs) and resource activities
2. ERA standards (which include eligibility criteria and standard conditions) for some lower risk ERAs that are suitable for the standard application process.

The model operating conditions and ERA standards are all specific to particular prescribed ERAs or resource activities. A full list of activities which have model operating conditions or ERA standards can be found at www.business.qld.gov.au.

The air conditions in this document will be applied in addition to any model or standard conditions developed for the activity as well as common conditions. However, there may be other conditions applied to EAs that are not found within this guideline.

When applying for an EA, you can use these air conditions as well as the common conditions to predict the conditions likely to be imposed on your EA and also tailor the content of your application (e.g. your business may want to propose environmental protection commitments to assist in the development of appropriate release limits).

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

For each condition you will find guidance on the intent and how to comply. These sections provide basic information on the reason for inclusion of a condition and what compliance may or may not look like. You may find this information helpful in managing your activity to ensure that you remain in compliance with your approval conditions. However, this additional information will not form part of your final approval conditions and is provided in this document as guidance only. You must decide on the level of risk associated with your activity and ensure that the measures implemented are appropriate to manage the environmental outcome or particular requirement set out within each condition of your approval.

1 Introduction

An EA authorises carrying out an activity and the conditions in your EA will generally state what is and what is not permitted as part of carrying out that activity. An EA does not authorise any environmental harm unless a condition stated by the authority specifically authorises environmental harm.

EA conditions relate to the operation of the activity and may also cover rehabilitation requirements. In most cases, the conditions in your EA will set the environmental outcomes that you must achieve. Where there is a high risk that something associated with your activity will cause serious environmental harm if it is not managed appropriately, your EA may include conditions that prescribe how that risk must be managed.

Where you also require a development permit for your activity, the conditions in your EA will not deal with land use issues, as these will have been assessed and conditioned in your development approval.

The administering authority may amend the conditions in this guideline to ensure that they are current and appropriate (although conditions in your approval will only change under the circumstances set out in the *Environmental Protection Act 1994* (EP Act)).

2 How to use this guideline

2.1 New site-specific applications

These air conditions provide a framework of conditions that will be applicable to all new EAs when a site-specific application is made to handle bulk mineral concentrates at the Port of Townsville. The conditions in this guideline have been developed in consultation with the Port of Townsville users that were actively carrying out the prescribed ERA that included mineral concentrate handling at the time of release of this guideline and have been agreed to by those operators. The conditions are separated into the ‘interests’ of general and air.

The conditions in this guideline must be used where appropriate without amendment. The conditions have been developed to address the environmental risks posed by the **activity** on the air environment and are warranted to adequately address the risk of environmental harm being caused by the **activity**. It is up to the discretion of the **administering authority** after completing an assessment of the **activity** to determine whether these conditions are not necessary to manage the environmental risks posed by the proposed **activity**.

It is your responsibility to assess the most efficient and effective way to achieve the environmental outcomes required by the conditions of your EA. This guideline outlines each air condition and provides guidance on the intent of the condition and gives examples of what compliance with each condition may entail.

There will be other conditions applied to EAs which are not found within this guideline. Other conditions may be appropriate to address environmental risks of a particular industry or site and will be drafted by the **administering authority** as necessary. The **administering authority** may also choose to omit specific air conditions if they are not considered relevant to the **activity** being carried out.

2.2 Amendments

Currently active operators within the Port of Townsville have adopted these conditions within the relevant EA's. When making an amendment to alter activities that were approved prior to the release of these conditions to include handling of **bulk mineral concentrates** these conditions will be included in to your EA as relevant to the amendment. Any changes made to replace existing conditions with other common conditions during the amendment process will be done in consultation with **you** and must be agreed to by **you**.

2.3 References to other documents

References in this document to laws, regulations, standards, policies, programs, guidelines and similar

documents and instruments are to the current version of those documents and instruments, as amended or replaced from time to time.

3 Obligations under the EP Act

At all times **you** must meet your obligations under the EP Act. The following information is provided to help **you** understand some of the key environmental obligations under the EP Act which may relate to the operation of your **activity**. This is not an exhaustive list of all of the environmental obligations. Environmental obligations which **you** must comply with include:

1. general environmental duty—s. 319
2. duty to notify of environmental harm—ss. 320–320G.

3.1 General environmental duty

A person must not carry out any **activity** that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable **measures** to prevent or minimise the harm¹. This is a person's general environmental duty.

You have the responsibility to work out what **you** need to do to make sure that **you** manage your environmental risk and achieve the outcomes set out in your EA.

Failure to comply with the general environmental duty is not, itself, an offence. However, causing an **environmental nuisance** or causing serious or material environmental harm is an offence. It is a defence if **you** can prove:

- that the environmental harm was not unlawful
- **you** have complied with the general environmental duty.

3.2 Duty to notify of environmental harm

The duty to notify requires a person to give notice where serious or material environmental harm is caused or there is a risk of such harm, and that harm is not authorised by the **administering authority**.

For more information on the duty to notify requirements—including who must be notified, and how and when to notify—refer to the guideline, [The duty to notify of environmental harm \(ESR/2016/2271\)](#). Section 4.2 of this guideline includes further information about serious or material environmental harm.

4 Offences under the legislation

This section sets out some of the offences that **you** should be aware of as **you** are carrying out your **activity**. If **you** commit one of these offences, **you** could be fined, prosecuted, or required by the **administering authority** to take a particular action. This list does not include all of the environmental offences under the legislation.

If **you** do commit an offence while carrying out your **activity**, the **administering authority** will take enforcement action in accordance with its [enforcement guidelines](#).

4.1 Contravention of a condition of an environmental authority

It is a legal requirement that **you** comply with the conditions in your EA. **You** must also ensure that anyone operating under the EA also complies with the conditions. This might include contractors visiting the site

¹ Extract from section 319 (1) of the EP Act.

temporarily or transport operators loading and unloading materials on site, and all staff employed at the site. Multiple people may be prosecuted if an offence is committed.

If **you** think that **you** have contravened a condition of your EA, it is your responsibility to correct the problem and bring yourself back into compliance with the condition. **You** should not wait for the **administering authority** to tell **you** what to do. **You** may also be legally required to contact the **administering authority** by the conditions in your EA or the duty to notify requirements under the EP Act.

Penalties for a breach of a condition of an EA vary from penalty infringement notices for one-off offences that are easily rectified, through to the issuing of statutory notices—such as an environmental evaluation, transitional environmental program or an environmental protection order. In serious cases the **administering authority** may initiate legal proceedings for restraint orders or to prosecute those responsible for the contravention.

4.2 Causing material or serious environmental harm

Material environmental harm has the meaning as defined in section 16 of the EP Act. In summary it is environmental harm, that is not trivial or negligible in nature, extent or context; or that costs more than \$5000 to clean up; or that causes (or has the potential to cause) more than \$5000 worth of damage to property.

Serious environmental harm has the meaning as defined in section 17 of the EP Act. In summary, it is harm that is irreversible; has a high impact or widespread effects to the environment; is caused to an area of high conservation significance; or causes clean-up costs or property damage worth more than \$50,000.

4.3 Causing environmental nuisance

Environmental harm includes **environmental nuisance**. **Environmental nuisance** has the meaning as defined in section 14 of the EP Act. In summary it is unreasonable interference with an **environmental value** caused by aerosols, fumes, light, noise, odour, particles or smoke, or an unhealthy, **offensive** or unsightly condition because of contamination. For activities that need an EA, the most common causes of **environmental nuisance** are dust, noise and odour.

4.4 Depositing a prescribed contaminant in waters

Prescribed water contaminants includes a wide variety of contaminants, for example earth, clay, gravel, sediment, chemicals, contaminants with a high or low pH, construction and building waste, gas, oil and sewage. For a full list of **prescribed water contaminants** see Schedule 10 of the Environmental Protection Regulation 2019.

It is your responsibility to ensure that **prescribed water contaminants** do not enter a waterway, roadside gutter or stormwater drain. This includes making sure that the **prescribed water contaminants** are not left in a position where they could enter one of those places. **You** also need to ensure that stormwater falling on, or running across your site does not leave the site contaminated. Where stormwater contamination occurs, **you** must ensure that it is treated to remove contaminants. **You** should also consider where and how **you** store material used in your **activity** onsite to reduce the chance of water contamination.

5 Conditions

General	
A1	<p>The activity operating under this environmental authority must not be conducted contrary to any of the following limitations:</p> <ol style="list-style-type: none"> 1. Bulk lead concentrate must not be loaded, unloaded or stored at or on berth 10 as indicated in <i>Figure A – Port of Townsville boundary monitoring locations</i>. 2. Lead concentrate that remains within a fully sealed package that prevents the release of contaminants for the duration of the ship loading or ship unloading may be loaded or unloaded at berth 10 as indicated in <i>Figure A – Port of Townsville boundary monitoring locations</i>. 3. Notwithstanding any other condition, odours or airborne contaminants must not cause environmental harm to an environmental value for air.
	<p>Intent</p> <p>With respect to handling of lead on Berth 10, the administering authority has determined that this location is not suitable for bulk lead concentrate handling activities due to its proximity to sensitive receptors. Lead concentrates that remain within a fully sealed container or package, provided the packaging prevents the release of contaminants for the duration of the handling process while at berth 10 may be loaded at the berth 10 location. Other mineral concentrates are permitted to be handled at this location provided the other conditions can be complied with. The condition is not intended to restrict an operator who moves to fully package lead concentrate for transport provided it remains sealed throughout the duration of storage and handling while at berth 10.</p> <p>Point 3 is to ensure all activities are carried out in a way that does not cause or threaten to cause environmental harm to an environmental value for air. This is regardless of whether compliance with the ambient air limits and release limits within the EA are achieved at the boundary of the port as environmental harm is not authorised outside of the boundary. This is particularly relevant for lead emissions. Schedule 1 of the Environmental Protection (Air) Policy 2009 states the indicators and air quality objectives for the relevant areas or places to protect the environmental values of air.</p> <p>How to comply</p> <p>You must not load, unload or store bulk lead concentrate at the berth 10 location. Packaged lead concentrates, such as those within a fully sealed contain, that remain fully contained throughout the handling process while on berth 10 are permitted provided that no release of contaminants from these packages occurs.</p> <p>You must ensure that the activity is conducted in a way that does not cause environmental harm to an environmental value for the air environment. Environmental values and objectives for air are defined within the Environmental Protection (Air) Policy 2019 (EPP (Air) 2019). The definition for air environment is as per the EPP (Air) 2019.</p>
A2	<p>The environmental authority holder must:</p> <ol style="list-style-type: none"> a) install all reasonable and practicable measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and b) maintain such measures, plant and equipment in a proper and efficient condition; and c) operate such measures, plant and equipment in a proper and efficient manner; and d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.
	<p>Intent</p> <p>This condition ensures that all measures, plant and equipment necessary to ensure compliance with the conditions of the EA are installed, maintained, operated, and calibrated appropriately. This is also expected to ensure best practice environmental management of the activity as identified in the <i>Environmental Protection Act 1994</i>.</p> <p>How to comply</p> <p>No further guidance provided other than outlined above and within the condition.</p>

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A3	All monitoring and investigations required by this environmental authority must be undertaken by an appropriately qualified person .
	<p>Intent</p> <p>The requirement that an appropriately qualified person(s) undertake all monitoring and investigations is intended to ensure that these are carried out by people with relevant experience and expertise and that results and findings are reliable. Relevant guidelines, Australian standards, or other documents relating to the monitoring and/or investigation may be listed in the relevant monitoring conditions and the associated protocols (such as instrumentation requirements and sampling techniques) must also be adhered to.</p> <p>How to comply</p> <p>You must ensure that appropriately qualified person(s) undertake the monitoring and/or investigations, records the results and undertakes any interpretation of the results. You should check the qualifications and experience of the person(s), and satisfy yourself that they are qualified to carry out the investigation, monitoring, recording and interpretation. In regards to laboratory analyses, it can be assumed that an appropriately qualified person(s) is performing the analyses where NATA accreditation for the required tests is current.</p> <p>You must ensure that an appropriately qualified person(s) monitors the parameters at the specific monitoring locations listed in the associated tables and conditions. When undertaking the monitoring, you must ensure that the appropriately qualified person(s) conducts the sampling at the correct location, records the results in the correct unit of measurement, and calculates the test values over the correct averaging period (where relevant). For example, dust deposition (insoluble solids) must be sampled in mg/m²/day units and be based on a 30 day average. You must ensure that the monitoring is undertaken at the frequency prescribed in the associated tables and conditions.</p> <p>Any monitoring should be carried out in accordance with any relevant best practice guideline or other relevant standards as per the associated monitoring requirements listed. Monitoring includes sampling that also extends to the handling, storage, transportation, verification and quality assurance of the condition of the samples upon arrival at the testing laboratory.</p>
A4	Any records kept or created in relation to this environmental authority must be: <ul style="list-style-type: none"> a) kept for a period of at least five years; and b) provided to the administering authority on request; and c) provided to the administering authority in the format requested.
	<p>Intent</p> <p>This condition will ensure that all documentation, including written and electronic, held in relation to the EA is available if required by the administering authority. This may be necessary to identify or resolve any environmental issues which may arise as a result of the ongoing operation of the activity.</p> <p>How to comply</p> <p>All information and records required by the conditions of your EA must be kept for at least five years. This includes monitoring reports, details of releases and any other necessary information you keep to comply with and to demonstrate compliance with the conditions of your EA.</p> <p>The administering authority can require this information to be provided upon request. If electronic data is required then data will need to be provided in the required electronic format.</p>

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A5	<p>The activity must be undertaken in accordance with written procedures that:</p> <ul style="list-style-type: none"> a) identify potential risks to the environment from the activity during routine operations and emergencies; and b) establish and maintain control measures that minimise the potential for environmental harm; and c) ensure plant, equipment and measures are maintained in a proper and effective condition; and d) ensure plant, equipment and measures are operated in a proper and effective manner; and e) ensure that staff are trained and aware of their obligations under the Environmental Protection Act 1994; and f) must be provided to the administering authority upon request.
	<p>Intent</p> <p>This condition is required to ensure procedures are established which detail how you will manage the environmental risk associated with carrying out the activity on the site.</p> <p>How to comply</p> <p>It is recommended that an environmental risk assessment be conducted of the activity and site prior to commencement of the activity. This assessment should identify the environmental risks that need to be managed and control measures to be employed. An example would be identifying that there is a potential risk for mineral concentrates to enter into the surrounding waterways in rainfall events. An acceptable control measure could be to develop a storm water management plan which may include the construction of a catchment pond at a storage facility, installation of containment barriers along the berth and regular monitoring of any receiving waterways.</p> <p>You must have written operational procedures that detail how and when to operate and calibrate equipment to ensure they are regularly serviced and maintained. This includes all equipment from onsite vehicles to monitoring equipment. Written operational procedures should form the basis for staff training during activities such as induction programs, on the job mentoring and ‘toolbox talks’. The written procedures should also include monitoring of performance of the equipment and processes for regular review and revision of the procedures to ensure they are kept up to date.</p> <p>For further guidance on conducting a risk assessment refer to Handbook 89-2013 Risk management – Guidelines on risk assessment techniques or other relevant Australian standard.</p>
A6	<p>The environmental authority holder must:</p> <ul style="list-style-type: none"> a) ensure that an appropriately qualified third party conducts and documents an audit of compliance with all conditions of this environmental authority by <INSERT DATE ONE YEAR AFTER COMMENCEMENT OF THE ENVIRONMENTAL AUTHORITY>; and b) ensure that further audits in accordance with condition A6(a) are conducted at intervals not exceeding once every three years from completion of the initial audit.
	<p>Intent</p> <p>This condition ensures an appropriately qualified, independent third party audits compliance of the activities with the conditions of the EA following one year of operation. Further audits are required at a less frequent interval of every 3 years to monitor the activities continued compliance with the conditions</p> <p>How to comply</p> <p>You must arrange for an independent audit by the third party within one year of the commencement of the EA to report on compliance with the conditions of the environmental authority. A written record must be kept and provided to the administering authority upon request (in accordance with condition A4). The record should contain details of any non-compliance issues that were found (if no non-compliance issues were found this should be stated in the report). If non-compliance issues were found the report should also address:</p>

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	<p>a. actions taken, or being undertaken, by the holder of this environmental authority to ensure compliance with this environmental authority; and</p> <p>b. actions taken, or being undertaken, to prevent a recurrence of non-compliance.</p>
A7	<p>Prior to handling any new mineral product or bulk material; or significant increase in volume of a mineral product or bulk material, the written procedures required by condition A5 must be reviewed for effectiveness in minimising the likelihood of environmental harm and updated where required.</p>
	<p>Intent</p> <p>This conditions is required to ensure that the risks and measures identified and documented for the activity remain appropriate and effective for managing the likelihood of environmental harm from the change in the activity.</p> <p>How to comply</p> <p>The written procedures as required by condition A5 must be reviewed when triggered by this condition. The review should be documented as having occurred and any change to the risk profile of the activity and any additional measures, if required, are included within the relevant procedures. An example of how to demonstrate the review being carried out and any changes required to the procedures could be through appropriate version control.</p>
A8	<p>Any breach of a condition of this environmental authority must be reported to the administering authority as soon as practicable, but no later than 24 hours after becoming aware of the breach.</p>
	<p>Intent</p> <p>This condition will ensure that all instances of non-compliances are promptly made known to the administering authority, even those which are considered to be minor in nature. This will help capture non-compliances that may result in environmental nuisance, or ongoing minor non-compliances which may pose longer term risks to the environment. This will allow action to be taken as necessary to protect the environment. The record keeping requirement of condition A4 will ensure that these non-compliances are documented.</p> <p>How to comply</p> <p>You must report any breach of a condition of your approval to the administering authority as soon as practicable but within 24 hours of becoming aware of the breach. This can be done by contacting the pollution hotline. You should request confirmation of the report for your records. Depending on the breach, the administering authority may require further detail in a follow up email. Records of the event including full details of the release or event, any potential environmental risks resulting from the release and any actions taken to rectify the event must be kept.</p> <p>This reporting requirement does not replace the statutory obligations to provide information to the administering authority on other events that threaten or cause environmental harm. However, if a breach is reported under the statutory duty to notify, within 24 hours of you becoming aware of it, you will also have complied with this condition. There is no need to provide this information twice. To demonstrate that you have met your general environmental duty you may want to consider the following options in relation to this condition.</p> <ul style="list-style-type: none"> • Report possible breaches to the administering authority as soon as you are made aware them, even if you are unsure if a condition of the EA has been breached; and • Have alarms systems or identification procedures in place to ensure that any breaches of conditions are identified swiftly; and • Ensure communication systems or procedures are in place to allow staff members to communicate breaches to site managers quickly.

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A9	<p>When required by the administering authority, monitoring must be undertaken in the manner requested by the administering authority to investigate any complaint arising from the activity.</p>
	<p>Intent</p> <p>This condition will ensure that you carry out monitoring to investigate any complaint when required by the administering authority. This condition relates to all complaints, this is because monitoring to inform an investigation may be necessary to determine if a complaint is vexatious, frivolous or based on mistaken belief and hence it may be a necessary step to determine the complaint's validity. The administering authority will be responsible for validating the initial complaint which may be carried out in consultation with the relevant EA holder.</p> <p>How to comply</p> <p>You must carry out monitoring when requested by the administering authority. The request by the administering authority will be in writing and require specified monitoring within a reasonable timeframe to be undertaken. An example may include carrying out dust monitoring to investigate whether dust from your activity is causing a nuisance to a nearby resident. Another example will be carrying out noise monitoring to investigate whether your activity is causing a nuisance at a noise sensitive place.</p>
A10	<p>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:</p> <ul style="list-style-type: none"> a) the mineral type; and b) a safety data sheet or product assay for the specific mineral; and c) the duration the mineral was handled (including start and finish times and dates); and d) the quantity of mineral handled; and e) whether the activity involved loading or unloading of the mineral; and f) the loading or unloading method used; and g) the location or berth number at which the mineral was handled; and h) for shipping activities, the name of the vessel loaded or unloaded; and i) the train or truck movements.
	<p>Intent</p> <p>This condition is required to ensure records are kept for all mineral products handled in the event an investigation is required to determine the source of any exceedances of the ambient air limits or other conditions of the EA. This information may also be used in providing records that indicate the EA holder did not cause or contribute to an exceedance.</p> <p>How to comply</p> <p>You must ensure the details are documented and records are kept of all the requirements of the condition as a minimum. You may document and record other details pertinent to the activity in determining the effects the activities may have on the ambient air limits.</p>
	Air
B1	<p>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:</p> <ol style="list-style-type: none"> 1. Immediately review and, where necessary, adjust operational controls. 2. If visible releases of dust emissions continue or are repetitive then: <ul style="list-style-type: none"> 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.

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	<p>Intent</p> <p>This condition is required to ensure appropriate action is taken by the EA holder in the event they or an authorised person under the EP Act observes a visible release of dust outside of: a ships hold; from a hopper, ship loader, or container: or a grab, or other infrastructure to the atmosphere.</p> <p>How to comply</p> <p>Whenever the EA holder or a representative of the EA holder observes a visible release of dust emissions from the activity that is not mist sprays used as control measures, then action must be taken in accordance with the requirements of the condition. For example, upon commencement of loading a vessel via a ship loader the operator observes a visible dust emission. The operator must then review the operational controls such as load rates and adjust accordingly to ensure the visible emission ceases. If the emission does not cease as a result of these adjustments then B1 (2) must be enacted.</p>																			
B2 option 1	<p><NO POINT SOURCE RELEASES ></p> <p>Contaminants must not be released to air from any point source.</p>																			
	<p>Intent</p> <p>This condition is required where no point source emissions are required for the activity.</p> <p>How to comply</p> <p>You must not release any contaminants to air from a point source. A point source is a single, identifiable release outlet for an air emission such as a stack, pipe, flue or vent. Examples of point source releases are bag house / air filter exhausts and vents for ensuring negative pressure within a storage facility.</p> <p>Schedule 1 of the Environmental Protection (Air) Policy 2019 list some of the indicators (contaminants) that may be present in the air environment including odours, aerosols, fumes, particles or dust. Common air contaminants released from point sources include, but are not limited to: particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide and organic compounds.</p>																			
B2 option 2	<p><POINT SOURCE RELEASES></p> <p>Contaminants must only be released to air from the point source(s) in accordance with <i>Table 1 – Point source air release limits</i> and the associated requirements.</p>																			
B3	Contaminants released to air from the point source(s) must not exceed the release limits specified in <i>Table 1 – Point source air release limits</i> .																			
B4	The environmental authority holder must monitor and record all releases of contaminants required by and in accordance with <i>Table 1 – Point source air release limits</i> and at the associated monitoring frequency.																			
Table 1	<p>Table 1 – Point source air release limits</p> <table border="1"> <thead> <tr> <th colspan="3">Authorised release point GDA2020, decimal degrees*</th> <th rowspan="2">Contaminant</th> <th rowspan="2">Minimum release height (m) <delete if not applicable></th> <th rowspan="2">Minimum velocity (m/sec) <delete if not applicable></th> <th rowspan="2">Maximum release limit</th> <th rowspan="2">Monitoring Frequency</th> </tr> <tr> <th>Ref</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td colspan="8">Details in this table will be specific to each operators current EA where a point source emission is authorised (e.g. baghouse release).</td> </tr> </tbody> </table> <p>* Decimal degrees to be provided to a minimum of 4 decimal places 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 – Isokinetic manual sampling – Gravimetric method.</p>	Authorised release point GDA2020, decimal degrees*			Contaminant	Minimum release height (m) <delete if not applicable>	Minimum velocity (m/sec) <delete if not applicable>	Maximum release limit	Monitoring Frequency	Ref	Latitude	Longitude	Details in this table will be specific to each operators current EA where a point source emission is authorised (e.g. baghouse release).							
Authorised release point GDA2020, decimal degrees*			Contaminant	Minimum release height (m) <delete if not applicable>						Minimum velocity (m/sec) <delete if not applicable>	Maximum release limit	Monitoring Frequency								
Ref	Latitude	Longitude																		
Details in this table will be specific to each operators current EA where a point source emission is authorised (e.g. baghouse release).																				

	<p>Intent</p> <p>These conditions are required where point source emissions are required for the activity. Where a release of contaminants to air from a point source is mentioned in Table 1 – Point source air release limits, limits are set on contaminants to ensure that the environmental values are protected. This condition relates to point source discharges to air.</p> <p>How to comply</p> <p>The only contaminants authorised to be released to air are those listed in <i>Table 1 – Point source air release limits</i>. Examples of point source releases are bag house / air filter exhausts and vents for ensuring negative pressure within a storage facility.</p> <p>If you are proposing to release contaminants to air, you must not exceed the release limits for the relevant contaminants as set out within Table 1 – Point source air release limits.</p> <p>You must also comply with any other release requirements set out in the table including meeting any velocities, temperatures and release heights specified and ensuring the releases occur at the specified locations. Where your activity will involve higher levels of emissions during start up or shut down there may be separate limits set within this table for those periods of your operation.</p> <p>This table will be developed in consultation with the administering authority's experts on air emissions based on your specific activity. Generally, you will be advised of the proposed table prior to receiving the EA. You may propose limits within your EA application supporting information.</p> <p>Monitoring undertaken in line with condition B4 must demonstrate that compliance with the release limits has been achieved.</p> <p>Fugitive emissions are not considered to be direct releases to air for the purpose of this condition as they are unable to be captured and controlled and as such appropriately monitored from a single point source. If you are unsure if a proposed release might be considered a point source release you should contact the administering authority.</p>
B5	<p>Measures for the control of airborne emissions from the storage of mineral concentrates must be documented; and installed, maintained and operated in a manner that prevents the release of mineral concentrates to the environment to ensure no exceedance of the air quality triggers and limits identified in Table 2 – Ambient Air Quality Trigger Values and Limits or Table 3 – Dust Deposition Trigger Values and Limits at or beyond the Port of Townsville boundary as depicted in Figure A – Port of Townsville boundary monitoring locations.</p> <ol style="list-style-type: none"> 1. Bulk mineral concentrates must be handled and stored within a building that must include, but not be limited to the following measures: <ol style="list-style-type: none"> a) cover all necessary openings and vents in the building (other than doorways and access ways) with filter media or other equivalent dust control measures; and b) ensure cladding of the building is securely affixed and free of any unnecessary holes; and c) maintain the interior of the storage facility under negative air pressure sufficient to prevent release of mineral concentrate from the building; and d) fit all doorways and access ways in the building with doors; and e) keep all doors in the building closed except when being used for access or egress; and f) maintain all doors, doorways and access ways in the building in such a condition that doors, when closed, provide a seal against the release of mineral concentrate to the environment. 2. mineral concentrates handled and stored in a packaged manner must be handled and stored in a manner that prevents releases to the environment. <p>Note: Alternative control technology that provides an equivalent level of control outside of those listed above may be accepted.</p>

	<p>Intent</p> <p>This condition is required to set the minimum standard for measures required to be implemented for the control of releases to the environment from the storage of mineral concentrates.</p> <p>How to comply</p> <p>You must install the measures that are specified in the condition. The installed measures must be kept maintained in order to achieve their intended purpose. Operation of the measures should be in accordance with manufacturer’s requirements or at the instruction of an appropriately qualified person. If alternative measures that provide an equivalent level of control are used then it is your responsibility to ensure these measures prevent the likelihood of a release of mineral concentrates to the environment. The measures must also comply with Condition A2. An example of ‘packaged’ could be containerised product that remains fully sealed for the duration of the storage. The measures must also be documented and documentation should include how the measures are to be maintained and operated. The documentation should also include monitoring of performance of the equipment and processes for regular review and revision of the documentation to ensure they are kept up to date.</p>
<p>B6</p>	<p>Measures for the control of airborne emissions from the ship loading and ship unloading of bulk mineral concentrates must be documented; and installed, maintained and operated in a manner that prevents the release of mineral concentrates to the environment to ensure no exceedance of the air quality triggers and limits identified in Table 2 – Ambient Air Quality Trigger Values and Limits or Table 3 – Dust Deposition Trigger Values and Limits at or beyond the Port of Townsville boundary as depicted in Figure A – Port of Townsville boundary monitoring locations. Measures must include, but not be limited to:</p> <ul style="list-style-type: none"> a) ensuring that the moisture content of the mineral concentrate is maintained as high as practicable* at the point of ship loading or ship unloading; and b) implementation of operational practices to minimise any potential reduction in mineral concentrate moisture content; and c) minimising the exposure of mineral concentrates to the effects of wind; and d) dust suppression systems** (e.g. misting sprays); and/or e) dust control systems** (e.g. dust extraction/filtration system). <p>* Consideration for Transportable moisture limit (TML) maritime safety requirements when determining practicable.</p> <p>** An appropriately qualified person must design, install, test and commission all dust control and dust suppression systems specific to the mineral concentrate product and for the specific method of handling (e.g. grab and hopper, rotainer, ship loader). The design must take in to consideration the dustiness, the Dust Extinction Moisture (DEM) level, and the dust/moisture relationship for the specific mineral concentrates as determined by the relevant Australian and International Standards.</p> <p>Note: Relevant controls a) to e) may be applied at any point within the handling stream including upstream of the loading or unloading point to effectively control emissions.</p>
	<p>Intent</p> <p>This condition is required to set the minimum standard for measures required to be implemented for the control of releases to the environment from the loading and unloading of vessels with mineral concentrates.</p> <p>How to comply</p> <p>You must install the measures that are specified in the condition. The installed measures must be kept maintained in order to achieve their intended purpose. Operation of the measures should be in accordance with manufacturer’s requirements or at the instruction of an appropriately qualified person. If alternative measures that provide an equivalent level of control are used then it is your responsibility to ensure these measures prevent the likelihood of a release of mineral concentrates</p>

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	to the environment. The measures must also comply with Condition A2, and be documented and documentation should include how the measures are to be maintained and operated. The documentation should also include monitoring of performance of the equipment and processes for regular review and revision of the documentation to ensure they are kept up to date.
B7	The environmental authority holder must monitor and record all quality characteristics required by and in accordance with <i>Table 2 – Ambient Air Quality Trigger Values and Limits</i> and <i>Table 3 – Dust Deposition Trigger Values and Limits</i> .
	<p>Intent</p> <p>This condition is to ensure monitoring of the ambient air environment is undertaken to ensure that the environment isn't being harmed from point source and/or fugitive releases of contaminants to the environment. This condition refers to the parameters to be monitored, units of measurement, the locations where monitoring must take place and required monitoring frequency as required by Table 2 and Table 3.</p> <p>An appropriately qualified person(s) must undertake the monitoring in accordance with condition A3 to ensure that monitoring is carried out by people with relevant experience and expertise and that monitoring results are reliable. Relevant guidelines, Australian standards, or other documents relating to the monitoring will be listed in the associated tables and any associated monitoring protocols (such as instrumentation requirements and sampling techniques) must also be adhered to.</p> <p>How to comply</p> <p>You must ensure that appropriately qualified person(s) undertake the monitoring, records the results and undertakes any interpretation of the results. You should check the qualifications and experience of the person(s), and satisfy yourself that they are qualified to carry out the monitoring, recording and interpretation. In regards to laboratory analyses, it can be assumed that an appropriately qualified person(s) is performing the analyses where NATA accreditation for the required tests is current.</p> <p>You must ensure that an appropriately qualified person(s) monitors the parameters at the specific monitoring locations listed in the table. When undertaking the monitoring, you must ensure that the appropriately qualified person(s) conducts the sampling at the correct location, records the results in the correct unit of measurement, and calculates the test values over the correct averaging period (where relevant). For example, dust deposition (insoluble solids) must be sampled in mg/m²/day units and be based on a 30 day average. You must ensure that the monitoring is undertaken at the frequency prescribed in the table.</p> <p>Any monitoring should be carried out in accordance with any relevant best practice guideline or other relevant standards as per the associated monitoring requirements listed in the relevant table footnotes. Monitoring includes sampling that also extends to the handling, storage, transportation, verification and quality assurance of the condition of the samples upon arrival at the testing laboratory.</p>
B8	The activity must not cause or contribute to any exceedance of the air quality limits identified in <i>Table 2 – Ambient Air Quality Trigger Values and Limits</i> or <i>Table 3 – Dust Deposition Trigger Values and Limits</i> at or beyond the Port of Townsville boundary as depicted in <i>Figure A – Port of Townsville boundary monitoring locations</i> .
	<p>Intent</p> <p>This condition is to ensure that environmental values are met from point source and fugitive releases to air from all mineral concentrate and bulk materials handling activities within the Port of Townsville. As there are multiple operators undertaking the activity within the Port of Townsville, each individual operator must manage their activities to ensure the limits in the tables are met. If an individual operator was operating within the relevant measurement period (e.g. within a three month rolling period) and included mineral concentrates that contain the quality characteristic of the limit that was exceeded (e.g. lead concentrate) then the onus is on the individual operator to determine if their activities contributed to the exceedance. Culpability will be determined in accordance with the</p>

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	<p>administering authorities <i>Enforcement Guidelines</i> based on the level of contribution made to an exceedance.</p> <p>How to comply</p> <p>You must not cause or contribute to an exceedance of the air quality limits specified in the tables at or beyond the boundary of the Port of Townsville as depicted in Figure A.</p>
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Table 2: Ambient Air Quality Trigger Values and Limits

Quality Characteristic	Limit type/ measurement period	Monitoring equipment	Monitoring frequency	Monitoring locations ^[7]	Trigger level	Air quality limit
Particulate Matter less than 10 µm in aerodynamic diameter (PM ₁₀)	Rolling 24 hour average based on one hour averages	Tapered Element Oscillating Microbalance (TEOM) ^[3]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	50 µg/m ³ ^{[1] [8]}
	Calendar year average	Tapered Element Oscillating Microbalance (TEOM) ^[3]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	25 µg/m ³ ^[8]

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Quality Characteristic	Limit type/ measurement period	Monitoring equipment	Monitoring frequency	Monitoring locations ^[7]	Trigger level	Air quality limit
Total suspended particulate matter (TSP)	Rolling 24 hour average based on one hour averages	Tapered Element Oscillating Microbalance TEOM ^[3]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at the two locations 1 and 2 as depicted on figure A locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	100 µg/m ³ ^[2]	NA
	Calendar year average	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	90 µg/m ³ ^[1]
Arsenic and its compounds measured as the total metal content in PM ₁₀ fraction	Calendar year average	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	0.006 µg/m ³ ^[1]

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Quality Characteristic	Limit type/ measurement period	Monitoring equipment	Monitoring frequency	Monitoring locations ^[7]	Trigger level	Air quality limit
Cadmium and its compounds measured as the total metal content in PM ₁₀ fraction	Calendar year average	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	0.005 µg/m ³ ^[1]
Copper and its compounds	Rolling 24 hour average based on one hour averages	Continuous Metals Analyser ^[5]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at the two locations 1 and 2 as depicted on figure A or any alternative locations ^[7] agreed to in writing by the administering authority .	5 µg/m ³ ^[2]	NA
Lead and its compounds	Rolling 24 hour average based on one hour averages	Continuous Metals Analyser ^[5]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at the two locations 1 and 2 as depicted on figure A or any alternative locations ^[7] agreed to in writing by the administering authority .	0.65 µg/m ³ ^[4]	NA

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Quality Characteristic	Limit type/ measurement period	Monitoring equipment	Monitoring frequency	Monitoring locations ^[7]	Trigger level	Air quality limit
Lead and its compounds measured as the total metal content in total suspended particulates (TSP)	Rolling three month average based on one month averages	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	0.3 µg/m ³ ^[4]	0.5 µg/m ³ ^[1]
	Rolling 12 month average based on one month averages	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	0.25 µg/m ³	0.5 µg/m ³
	Calendar year average	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	0.5 µg/m ³ ^[1]

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Quality Characteristic	Limit type/ measurement period	Monitoring equipment	Monitoring frequency	Monitoring locations ^[7]	Trigger level	Air quality limit
Nickel and its compounds measured as the total metal content in PM ₁₀ fraction	Calendar year average	High Volume Air Sampler (HVAS)	One in every six days	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location ^[7] agreed to in writing by the administering authority .	NA	0.02 µg/m ³ ^[1]
Nickel and its compounds	Rolling 24 hour average based on one hour averages	Continuous Metals Analyser ^[5]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at the two locations 1 and 2 as depicted on figure A or any alternative locations ^[7] agreed to in writing by the administering authority .	0.2 µg/m ³ ^[2]	NA
Zinc and its compounds	Rolling 24 hour average based on one hour averages	Continuous Metals Analyser ^[5]	Continuous ^[6]	At minimum, monitoring must be carried out concurrently at the two locations 1 and 2 as depicted on figure A or any alternative locations ^[7] agreed to in writing by the administering authority .	12 µg/m ³ ^[2]	NA

[1] Limits based on Environmental Protection (Air) Policy 2019.

[2] Department of Environment, Science and Innovation trigger based on a no worsening effect on the air environment from the **activity**.

[3] A non TEOM instrument may be used if it can be demonstrated to meet equivalent detection limits and measurement accuracy. If a conversion factor is necessary to enable interpretation of data against HVAS results, this must be provided to the **administering authority** on request.

[4] Trigger is based on the *Ambient Air Lead Guideline Value Derivation for Glencore's Port of Townsville Operations* report dated 19 January 2017.

[5] An example of a Continuous Metals Analyser is an X-ray Fluorescence (XRF) method analyser such as an *X-act* or similar provided it uses a Total Suspended Particulates inlet.

[6] Continuous monitoring is monitoring that captures data equal to at least 75 percent of the total possible data required in any period (excluding during natural disaster events such as cyclones) of:

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- a. twelve (12) calendar months; and
- b. three (3) calendar months; and
- c. twenty four (24) hours.

[7] Locations must be representative of actual operating and meteorological conditions for the sample frequency period.

[8] The **administering authority** will give due consideration to natural events (such as bushfires, dust storms, and cyclones) when determining compliance with this limit.

Associated monitoring requirements

1. All monitoring devices must be effectively calibrated and maintained in accordance with the manufacturer's instructions and/or relevant Australian Standard.
2. Air monitoring must be in accordance with the current edition of the **administering authority's** Air Quality Sampling Manual.
3. Monitoring and sample analysis must be in accordance with the most recent edition of the following:
 - a) Australian Standard AS/NZS 3580.1.1 - Methods for siting and analysis of ambient air. Part 1.1: Guide to siting air monitoring equipment;
 - b) Australian Standard AS/NZ 3580.9.3- Methods for sampling and analysis of ambient air Method 9.3: Determination of suspended particulate matter—Total suspended particulate matter (TSP)—High volume sampler gravimetric method;
 - c) Australian Standard AS 3580.9.6 'Ambient air - Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet -Gravimetric method;
 - d) Australian Standard AS3580.9.15 'Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - Particulate metals high or low volume sampler gravimetric collection - Inductively coupled plasma (ICP) spectrometric method'
 - e) Australian Standard AS/NZS 3580.10.1 - Methods for sampling and analysis of ambient air. Method 10.1: Determination of particulate matter-Deposited matter-Gravimetric method; and
 - f) Any alternative method of monitoring which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the **administering authority**.

Table 3: Dust Deposition Trigger Values and Limits.

Quality Characteristic ^[1]	Limit type/measurement period	Monitoring frequency	Monitoring locations	Trigger level
Arsenic and its compounds as arsenic ^[2]	Calendar year average	Monthly	At minimum, monitoring must be carried out concurrently at three (3) locations, including the locations indicated in Figure A or any alternative location agreed to in writing by the administering authority .	4 µg/m ² /day
Cadmium and its compounds as cadmium ^[2]	Calendar year average	Monthly		2 µg/m ² /day
Lead and its compounds as lead ^[2]	Calendar year average	Monthly		100 µg/m ² /day
Dust deposition (total insoluble matter)	Monthly average	Monthly		120 mg/m ² /day

[1] Australian Standard AS/NZS 3580.10.1 - Methods for sampling and analysis of ambient air. Method 10.1: Determination of particulate matter-Deposited matter-Gravimetric method

[2] Metal analysis is to be carried out in accordance with the methodology in appendix A of AS/NZS3580.10.1.

Intent	<p>The trigger levels and air quality limits for contaminants are set to ensure that potential impacts to the air environment are managed, that the air quality is maintained within, and at the boundary of, the Port of Townsville, and that the environmental values are protected.</p> <p>The trigger levels and limits in the table have been developed in consultation with the administering authority's experts on air emissions based on the specific activity and historical emissions data. Consultation with other EA holders that conducted the activity at the time of writing this document was also carried out to develop the triggers and limits. Agreement was reached between these EA holders and the administering authority in relation to these triggers and limits.</p>
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	<p>How to comply</p> <p>You must not cause or contribute to an exceedance of the air quality limits specified in the tables at or beyond the boundary of the Port of Townsville as depicted in Figure A.</p> <p>You must respond to any exceedance of a trigger level specified in the tables in accordance with B12.</p> <p>The monitoring of compliance against the limits specified must be undertaken in accordance with the footnotes and associated requirements.</p> <p>You must undertake an appropriate monitoring program which meets the requirements of condition B7 to ensure compliance with the limits and that ensures triggers are responded to in accordance with B12.</p>
B9	<p>The environmental authority holder must ensure all continuous monitoring results required by the conditions of this environmental authority are reviewed regularly during bulk mineral concentrate ship loading and ship unloading to ensure compliance with condition B8.</p>
	<p>Intent</p> <p>This condition requires you to review continuous monitoring data regularly during handling of mineral concentrates so that operational intervention can be enacted if monitoring indicates an exceedance of a trigger of limit is approaching.</p> <p>How to comply</p> <p>You must review the continuous monitoring results at a frequency regularly enough to ensure that your activities do not cause or contribute to an exceedance of an air quality limit as stipulated in Tables 2 and 3.</p>
B10	<p>By 31 March each year, the environmental authority holder must have an appropriately qualified person produce a report that, as a minimum:</p> <ol style="list-style-type: none"> 1. determines whether compliance with Condition B8 has been achieved for the previous calendar year; and 2. provides a review of the effectiveness of the monitoring program* required by Condition B13. <p>*Note - a collective review under the collaborative Port of Townsville monitoring program may be used to satisfy this requirement.</p>
	<p>Intent</p> <p>This condition ensures that an appropriately qualified person annually reviews the activities that occurred during the previous calendar year and determines whether compliance with the air quality limits was achieved. The appropriately qualified person must also review the monitoring program for its effectiveness in monitoring for compliance with the conditions of the EA. The report produced should include details of the determinations and reviews and any recommendations for improvements to the monitoring program and/or additional measures for ensuring compliance with the air quality limits is achieved.</p> <p>How to comply</p> <p>You must arrange for an appropriately qualified person to produce a report by the due date annually to address the requirements of the condition.</p> <p>A report must be produced by an appropriately qualified person stating whether or not compliance with condition B8 has been achieved. The report should include the findings of this determination and the findings of the review of the effectiveness of the monitoring program.</p> <p>If compliance has not been achieved then you must notify the administering authority in accordance with condition A8 if notification has not already occurred.</p>

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B11	<p>Prior to any significant increase in the amount of any lead containing product handled, the environmental authority holder must have an appropriately qualified person model# the predicted emissions to air and determine the impacts of the increase on air quality with specific consideration given to:</p> <ol style="list-style-type: none"> 1. The cumulative impacts of the increase; and 2. The ambient air quality trigger values and limits identified in <i>Table 2 – Ambient Air Quality Trigger Values and Limits</i> and <i>Table 3 – Dust Deposition Trigger Values and Limits</i>. <p># An air model that encompasses the entire Port of Townsville air shed incorporating the increase may be used to satisfy this requirement.</p>
	<p>Intent</p> <p>This condition is to ensure any impacts to the air environment that may result from any changes in operations involving lead containing products are identified, considered and addressed prior to the change being implemented through modelling the potential impacts to air. Air modelling must consider cumulative impacts on the Townsville air shed and ensure the EA holder can continue to meet the ambient air quality triggers and limits.</p> <p>Current EA holders (at the time of writing this document) are not required to have an appropriately qualified person model the air emissions from the current activity provided they do not significantly increase handling of lead containing products (definitions for significant increase and lead containing product are provided in the definitions section) from those handled in the previous five (5) consecutive calendar years or a model has been developed for a volume greater than that currently being handled (as per the definition for significant increase).</p> <p>Examples:</p> <ol style="list-style-type: none"> 1. If you handled a total of 120,000 tonnes of lead containing products in the last calendar year but two years ago you handled 200,000 tonnes in that calendar year you are not required to model the predicted emissions if you do not exceed 220,000 tonnes per year (i.e. less than 10% increase in volume from that previously handled in the previous consecutive five years). 2. If you had not handled over a total of 150,000 tonnes per year in any of the previous 5 years of lead containing products but you have modelled the predicted emissions from 300,000 tonnes of lead containing products, then this condition is not triggered unless you intend on handling greater than 300,000 tonnes of lead containing products per year. <p>However, if you have only handled a lead containing product with a low percentage of lead by weight and intend on replacing this product with a lead containing product with a high percentage of lead by weight then the predicted emissions should be modelled to ensure you can meet the conditions of the EA.</p> <p>However, you may consider modelling the impacts from the current activities to ensure you are able to meet the other conditions of the EA.</p> <p>New operators seeking an EA will need to demonstrate through an air model that they will be able to meet the ambient air quality triggers and limits within their application for the EA.</p> <p>How to comply</p> <p>Potential impacts from an activity that involves lead containing products (or an increase for existing EA Holders) on the air environment must be modelled using an appropriate air emissions model and must be conducted by an appropriately qualified person.</p> <p>An increase in lead containing products that has been modelled and indicates that an ambient air quality trigger value or limit will not be met must not progress without appropriate measures</p>

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	<p>to ensure the triggers and limits can be met. The model should then be reviewed with these measures to predict the effect the measures will have on potential emissions.</p> <p>A model should be verified with data from monitoring conducted either from the port boundary and/or the near field monitoring program.</p> <p>The EA holder may elect to participate in the air model for the entire Port of Townsville. This will need to be arranged with the relevant Port Authority, the Port of Townsville Limited directly as the administering authority does not manage a Port of Townsville model for external parties.</p>
B12	<p>In the event of any monitoring showing exceedance of any trigger value* specified in <i>Table 2 – Ambient Air Quality Trigger Values and Limits</i> or <i>Table 3 – Dust Deposition Trigger Values and Limits</i> at or beyond the Port of Townsville boundary as depicted in <i>Figure A – Port of Townsville boundary monitoring locations</i> the environmental authority holder must:</p> <ol style="list-style-type: none"> 1. complete an investigation to identify the potential cause of the exceedance taking into account all available monitoring data, and: <ol style="list-style-type: none"> i. if the investigation shows that the exceedance is not caused or contributed to by the environmental authority holders activities then no further action is required and this must be advised to the administering authority within ten (10) business days. ii. if the investigation shows that the exceedance is caused or contributed to by the environmental authority holders activities, provide a written report to the administering authority within three (3) months of the date of the monitoring results showing an exceedance, outlining: <ol style="list-style-type: none"> a) the potential for environmental harm being caused or likely to be caused by the exceedance; and b) details of the investigation carried out including a review of the measures and procedures for the control of airborne emissions; and c) actions taken or to be taken to minimise environmental harm. <p>*Note: Where no operations have occurred within the relevant period or operations have not included mineral concentrates that contain the quality characteristic of the trigger value exceeded then no action is required of the environmental authority holder.</p>
	<p>Intent</p> <p>This condition is to ensure an investigation is conducted when a trigger value specified in the tables has been exceeded to ensure environmental values are being protected and air quality limits are not exceeded. If you have not operated within the relevant monitoring period (e.g. no handling of mineral concentrates or bulk materials has occurred in the preceding 24 hour period prior to the 24 hour trigger being exceeded) or your operations have not involved the handling of mineral concentrates that contain the quality characteristic triggered then no action is required. For example, you have been loading a zinc product that does not contain any copper and the copper trigger is exceeded then no action is required by you. Another example could be that you have not been undertaking the activity for the past 36 hours and a rolling 24 hour average trigger is exceeded, no action is required by you. Rolling 12 month, 3 month, and monthly averages will likely require investigation by all operators unless it can be demonstrated that no activities occurred in the relevant monitoring period.</p> <p>How to comply</p> <p>You must conduct an investigation addressing the requirements of the condition if a trigger value at any of the nominated monitoring locations has been exceeded.</p> <p>Findings of the investigation must be documented and provided to the administering authority within 3 months of the exceedance</p>

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B13	<p>The environmental authority holder must develop and implement and document an ambient air quality and dust deposition monitoring program* by <INSERT DATE> to ensure compliance with the conditions of this environmental authority.</p> <p>*Note – the environmental authority holder may elect to participate in a collaborative Port of Townsville monitoring program as an alternative to, or in addition to the monitoring program identified above, provided the collaborative program meets the requirements of this environmental authority, and copies of all records are kept by the environmental authority holder of the results and findings of this program.</p>
	<p>Intent</p> <p>This condition is to ensure a monitoring program is implemented to ensure environmental values are being protected and monitoring for compliance with conditions occurs.</p> <p>The condition affords you the option to participate in the monitoring program that is managed by the Port Authority, Port of Townsville Limited. Your participation in this program must be organised directly with the Port Authority.</p> <p>How to comply</p> <p>You must develop a monitoring program, or participate in the collaborative Port of Townsville program, for monitoring ambient air quality and dust deposition. It is your responsibility to ensure that the monitoring program aligns with the conditions of your EA for the monitoring parameters, locations, and frequency. The program should be developed by, or in consultation with an appropriately qualified person. The program must be documented and you must ensure the program is implemented. You must keep records of the results and findings of the monitoring program regardless of if you participate in the collaborative monitoring program or not.</p>
B14	<p>By <INSERT DATE> the environmental authority holder must develop, document, implement, and comply with an operational (near field) air quality monitoring program for all activities involving the loading or unloading of ships with bulk mineral concentrates. This program must as a minimum:</p> <ol style="list-style-type: none"> 1. Be developed by an appropriately qualified person; and 2. Identify and include sufficient monitoring locations that provide results representative of the emissions; and 3. Include operational trigger levels and appropriate corrective management response actions to minimise the release of contaminants; and 4. Include the use of continuous, real time air quality monitoring; and 5. Maximise data and monitoring equipment availability; and 6. Be utilised as part of any investigation undertaken pursuant to condition B12.
	<p>Intent</p> <p>This condition is to ensure a near field monitoring program is implemented to ensure you are monitoring your activities and the contribution that your activities are making to the trigger values and air quality limits at or beyond the boundary of the Port of Townsville.</p> <p>How to comply</p> <p>By the required date, you must arrange for an appropriately qualified person to develop a near field monitoring program for activities involving mineral concentrates. The program must address the requirements of this condition. The program must be documented and implemented and you must comply with the program. The documented program should also include monitoring of performance of the program and equipment. Processes for regular review and revision of the documentation to ensure they are kept up to date should also be considered.</p>

Model operating conditions (Air)

Port of Townsville ERA 50 (1) Bulk Material Handling–Minerals

B15	<p>The environmental authority holder must make air monitoring data as required in <i>Table 2 – Ambient Air Quality Trigger Values and Limits</i> and <i>Table 3 – Dust Deposition Trigger Values and Limits</i> of this environmental authority publically available in a prominent position on the company website or a suitable third parties website, within 14 days of obtaining the data.</p> <p>Note: Monitoring data that has not been validated following commissioning of monitoring equipment required for compliance with condition B8 is not subject to this condition for 30 calendar days or until validated whichever is the sooner.</p>
	<p>Intent</p> <p>This condition ensures that the public is able to inform themselves of the air quality and emissions from the mineral concentrate handling activities in the Port of Townsville. The 14 day period is to provide a time period for you to validate the data prior to public display. Invalidated data should not be displayed. Data that cannot be validated during these periods is expected to be accounted for in the data availability factor in the footnotes of Table 2.</p> <p>The suitable third party website is to afford you the option to display the data on a suitable third party website, for example the Port Authority.</p> <p>A minimum of two (2) years data should be publically displayed on the website. Rolling averages must be maintained and presented appropriately on the website.</p> <p>How to comply</p> <p>You must ensure that all air monitoring data required by table 2 is displayed on your company website. A suitable, alternative third parties website may be used. A suitable third party website could be the Port of Townsville Limited’s website. This would need to be organised with the Port of Townsville Limited or the relevant other suitable third party directly.</p> <p>Monitoring data that has not been validated following the commissioning phase of new or replacement monitoring equipment and associated equipment and software to enable to monitoring of the quality characteristics referenced in the tables is not required to be publically displayed until data has been validated.</p> <p>Publically available historical representation of the air monitoring data should be made available for a minimum of two years; however, records must be kept for five years in line with the record keeping requirements of condition A4. Data is only expected to be displayed for the relevant measurement periods. For example, 24 hour averages are displayed as the average over the 24 hour period not minute intervals of instantaneous data that makes up a 24 hour average.</p>
B16	<p>The environmental authority holder must ensure all continuous air monitoring data as required in <i>Table 2 – Ambient Air Quality Trigger Values and Limits</i> of this environmental authority is electronically available to the administering authority on a daily basis.</p>
	<p>Intent</p> <p>This condition ensures that all monitoring data obtained from continuous monitoring equipment required by Table 2 is available to the administering authority in an electronic format on a daily basis in the event the administering authority requests the data in accordance with condition A4.</p> <p>How to comply</p> <p>You must ensure that all continuous monitoring data required by table 2 is recorded and records are kept in an electronic format on a daily basis and available to the administering authority on request.</p>

6 Definitions

Note that where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

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 successors or predecessors.

appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

Bulk mineral concentrate means unpackaged and loose mineral concentrates.

calendar year average means the average over a period of 12 months beginning on 1 January.

lead concentrate means any mineral concentrate product where the composition of the product includes greater than 21% by weight of lead.

lead containing products means any **bulk mineral concentrate** product that contains lead at 1% by weight or greater.

measures means the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competencies.

new mineral product or bulk material means any mineral product or bulk material not previously handled by the environmental authority holder in the previous 12 months. Does not include the same product or material from a different mine or supplier.

records include breach notifications, written procedures, analysis results, monitoring reports, monitoring results, monitoring data, and monitoring programs required under a condition of this authority.

rolling 12 month average based on one month averages means the average of the previous 12 months for each month of the year.

rolling three month average based on one month averages means the average of the previous 3 months for each month of the year.

rolling 24 hour average based on one hour averages means the average of the previous 24 hours for each hour of the day.

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 2004* or a World Heritage Area; or
6. a public thoroughfare, park or garden; or
7. for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.

significant increase means:

- a) an increase of greater than 10% in volume of any product, other than **lead containing products**, from that handled per year in any of the previous 5 consecutive calendar years; or
- b) an increase in the volume of **lead containing products** to that previously modelled; or
- c) an increase of greater than 10% in total volume of **lead containing product** handled per year in any of the previous 5 consecutive calendar years.

Transportable Moisture Limit (TML) means the maximum moisture content of a cargo that is considered safe for transportation in ships to manage liquefaction risk and cargo instability.

You means the holder of the environmental authority.

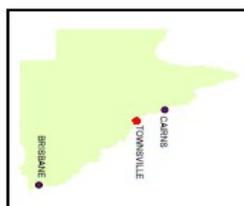
Appendices

Figure A. Port of Townsville boundary monitoring locations.



PORT OF TOWNVILLE

- Legend
- Port Boundary
- Port Boundary Corner Points
- Air Quality Monitoring Points
- Coast Guard (1)
- Lennon Drive (2)
- Environmental Park (3)



MAJESTY
 Queensland, 10th, 2015.
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 Produced by Strategic Compliance, Environmental Services & Regulation
 Date: 03/05/2017
 Date: 03/05/2017
 Date: 03/05/2017