

Permit

Environmental Protection Act 1994

Environmental authority EPPR00518513

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

Environmental authority number: EPPR00518513

Environmental authority takes effect on 23 January 2018

Environmental authority holder(s)

Name(s)	Registered address
CENTURY MINING LIMITED	Level 9, 350 Collins Street MELBOURNE VIC 3000 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 50 - Bulk Material Handling, 1: Loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals, (a) within 5km of the highest astronomical tide or 1km of a watercourse	Lot 81/SP125919
Prescribed ERA, ERA 50 - Bulk Material Handling, 1: Loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals, (a) within 5km of the highest astronomical tide or 1km of a watercourse	Lot 71/SP112359
Prescribed ERA, ERA 50 - Bulk Material Handling, 1: Loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals, (a) within 5km of the highest astronomical tide or 1km of a watercourse	Lot 72/SP115210
Prescribed ERA, ERA 50 - Bulk Material Handling, 1: Loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals, (a) within 5km of the highest astronomical tide or 1km of a watercourse	Lot 505/SP162436
Prescribed ERA, ERA 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	Lot 81/SP125919
Prescribed ERA, ERA 31 - Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t	Lot 71/SP112359

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Prescribed ERA, ERA 58 - Regulated Waste Treatment, Operating a facility for receiving and treating regulated waste or contaminated soil to render the waste or soil non-hazardous or less hazardous	Lot 81/SP125919
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Prescribed ERA, ERA 63 - Sewage Treatment, 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of, (b-ii) more than 100 but not more than 1500EP otherwise	Lot 81/SP125919
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Additional information for applicantsEnvironmentally relevant activities

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

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

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

Contaminated land

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

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

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

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.

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

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

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

Date issued: 23 January 2018

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)



Legislative Requirements and Conditions of Environmental Authority

Condition

General

A1 Prevent and/or minimise likelihood of environmental harm

In carrying out the activities to which this approval relates, all reasonable and practicable measures must be taken to prevent and/or to minimise the likelihood of environmental harm being caused.

A2 Activity

This approval does not authorise environmental harm unless a condition contained within this approval explicitly authorises that harm. Where there is not a condition or the approval is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.

A3 Maintenance of measures, plant and equipment

The registered operator of this approval must:

- a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this approval; 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.

A4 Risk management system

A risk management system for the activities that conforms to the Australian Standard for Risk Management (AS/NZ 4360:2004) or the latest edition of Australian Standard for Risk Management must be developed and implemented.

A5 Site based management plan

A site based management plan (SBMP) must be developed, implemented and maintained taking into account condition A4. The SBMP must identify all sources of environmental harm, including but not limited to:

- the actual and potential release of all contaminants;
- the potential impact of these sources and contaminants; and
- what actions will be taken to prevent the likelihood of environmental harm being caused.

The SBMP must also provide for the review and 'continual improvement' in the overall environmental performance of all activities that are carried out.

The SBMP must address the following matters at a minimum:

- a) environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals;
- b) identification of environmental issues and potential impacts;
- c) monitoring of contaminant releases including contaminant release locations and conducting environmental impact assessments;
- d) organisational structure and responsibility;
- e) effective communication;
- f) notification procedures for emergency events, incidents and exceptions for notification to the administering authority and other potentially affected stakeholders;
- g) staff training;
- h) record keeping;
- i) periodic review of environmental performance and continual improvement;
- j) emergency response and contingency plans including the following matters at a minimum:
 - (i) response procedures and contingency plans to be implemented to prevent or minimise the risk of environmental harm arising from emergency events;
 - (ii) response procedures to minimise the extent and duration of environmental harm caused by emergency events;
 - (iii) contingency plans including the practices and procedures to be employed to restore the environment or to mitigate any environmental harm caused;
 - (iv) the physical resources to be used in response to emergencies;
 - (v) procedures to investigate the cause of any emergencies, including the release of contaminants off site, and where necessary, the implementation of remedial actions to prevent the recurrence of similar events;
 - (vi) the provision and availability of documented procedures to staff attending any emergency to enable them to effectively respond;
 - (vii) training and qualifications required by staff that will be called upon to respond to emergencies to enable them to effectively respond;

(viii) timely and accurate reporting of the circumstance and nature of the emergency to the administering authority in accordance with conditions A11-A13;

(ix) procedures for accessing monitoring points required by this approval and other relevant monitoring points during emergencies to determine environmental harm caused;

(x) procedures to notify any person who may be affected by the emergency within 24 hours, with the following information to be provided at a minimum:

- A. the location of the emergency;
- B. the date and time of the emergency;
- C. the estimated quantity and type of any substances (if available concentrations) involved in the emergency; and
- D. the potential impacts to environmental values caused by the emergency;

k) a water management plan in accordance with the administering authority's guideline for preparing a water management plan for mining activities. The plan must also include:

- (i) a description of applicable environmental values and water quality objectives to be achieved (consistent with the requirements of this approval);
- (ii) a description of potentially affected receiving waters including key communities and reference water quality and sediment characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality);
- (iii) a description of the processes and unit operations which comprise the water management system specifying appropriate operating and maintenance strategies and set-points;
- (iv) an assessment of hydrological conditions through the use of hydrodynamic modelling;
- (v) a water quality monitoring program comprising:
 - A. specification of water quality monitoring locations, frequency of sampling and analytical determinations required by the program;
 - B. monitoring of the physical and chemical characteristics of waters released from the site to the receiving environment;
 - C. a receiving water monitoring program which monitors and records the effects of the release of contaminants on the receiving environment periodically and whilst contaminants are being discharged from the site, with the aims of identifying and

describing the extent of any adverse impacts to local environmental values, and monitoring any changes in the receiving water including:

1. monitoring of seawaters at impacted and reference sites for physical and nutrient characteristics on a weekly basis whilst release from the site is being conducted;
2. monitoring of seawaters at impacted and reference sites for metals and metalloids on a twice yearly basis;
3. monitoring of sediments at impacted and reference sites for metals and metalloids on a twice yearly basis;

D. the conduct of a monitoring program once every two years to measure contaminant (metal and metalloids) concentrations in locally caught fish, crustaceans and molluscs to evaluate whether maximum levels and generally expected levels in the Australia New Zealand Food Standards Code (as amended) are met, and if not, the relative impacts of the registered operator's activities on the contaminant concentrations;

(vi) specification of indicators or other criteria by which the performance of the water management program can be assessed giving due regard to historic, background and environmental protection levels; and

(vii) provision for timely audit and review of the effectiveness of the water management plan;

l) a waste management plan including the following matters as a minimum:

- (i) a description of the activities that may generate waste;
- (ii) the types and amounts of wastes generated by the activities;
- (iii) a program for reusing, recycling or disposing of all wastes;
- (iv) how the waste will be dealt with in accordance with the waste management hierarchy, including a description of the types and amounts of waste that will be dealt with under each of the waste management practices in the waste management hierarchy (i.e. avoidance, reuse, recycling, energy recovery, disposal);
- (v) procedures for identifying and implementing opportunities to minimise the amount of waste generated, promote efficiency in the use of resources and improve the waste management practices employed;
- (vi) procedures for dealing with accidents, spills, and other incidents that may impact on the waste management;
- (vii) details of any accredited management system employed, or planned to be employed, to deal with the waste;

(viii) how often the performance of the waste management practices will be assessed; and

(ix) the indicators or other criteria on which the performance of the waste management practices will be assessed;

m) an air management plan including the following matters as a minimum:

(i) a description of the activities that may generate air emissions;

(ii) the sources, locations and quantity of air emissions generated by the activities;

(iii) a procedure for monitoring total particulate matter at the point source emission points which includes a requirement to conduct further monitoring in the community if the trigger level is exceeded;

(iv) a procedure for monitoring sulphur dioxide within the concentrate storage shed which includes a requirement to conduct further monitoring in the community if the trigger level of 50 parts per million is exceeded;

(v) validation of 60% TSP vs PM10;

(vi) a receiving environment monitoring program which monitors and records the effects of the release of contaminants on the receiving environment, with the aims of identifying and describing the extent of any adverse impacts to local environmental values and monitoring any changes in the Karumba air shed.

A6 The SBMP must be revised within three months of the grant of this approval and not be implemented or amended in any way that contravenes any condition of this approval.

A7 Mineral concentrate management

The buildings and structures in place at the site for the storage and transfer of mineral concentrate must be constructed and maintained to withstand a category 4 cyclone.

A8 The construction and state of the buildings and structures mentioned in condition A7 must be checked for compliance with condition A7 and certified by an appropriately qualified person on at least a three yearly basis.

A9 Mineral concentrate that may cause a dust nuisance must be stored and transferred in buildings and structures that incorporate the following dust control measures as a minimum:

a) all necessary openings and vents in the buildings (other than doorways and access ways) must be covered with filter media or other equivalent dust control measures;

b) cladding of the buildings must be securely affixed and free of any unnecessary holes;

- c) the interior of the concentrate storage shed, stockpile shed and outloading conveyor must be maintained under negative air pressure sufficient to prevent release of mineral concentrate from the buildings;
- d) all doorways and access ways in the buildings or structures must be fitted with doors;
- e) all doors in the buildings or structures must remain closed except when being used for access or egress;
- f) all doors, doorways and access ways in the buildings or structures must be maintained in such a condition that doors, when closed, provide a seal against the release of mineral concentrate to the receiving environment;
- g) all openings provided for cleaning at the base of conveyor transfer towers on the site and the wharf must be kept closed except when cleaning is taking place;
- h) air extracted from the interiors of the buildings must only be released to the receiving environment via the release points specified in Schedule B – Table 1 (Point source air emissions) of this approval; and
- i) transfer of mineral concentrate to ships must be carried out in a manner that minimises the likelihood of any release of mineral concentrate to the atmosphere or waters.

A10 A whole of site house keeping procedure must be developed and implemented which must include, but not be limited to:

- a) the completion of periodic inspections of the site including all structures, plant, equipment and trafficked surfaces to identify and remove exposed mineral concentrate that may be mobilised by wind, water or equipment movement;
- b) an ongoing cleaning and maintenance schedule to minimise any potential release of mineral concentrate and to ensure there is no build up of mineral concentrates over time in areas where it may be mobilised.

A11 Notification of emergencies, incidents and exceptions

The registered operator of this approval must notify the administering authority by telephone, email or facsimile as soon as practicable but within 24 hours, after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this approval.

A12 The registered operator of this approval must notify the administering authority by telephone, email or facsimile as soon as practicable but within 48 hours, after becoming aware of any monitoring result that demonstrates an exceedence of any limit prescribed by this approval.

A13 The notification must include, but not be limited to, the following:

- a) the approval number and name of the registered operator of this approval;

- b) the name and telephone number of the designated contact person;
- c) the location of the emergency, incident or exception;
- d) the date and time of the emergency, incident or exception;
- e) the time the registered operator of this approval became aware of the emergency, incident or exception;
- f) the estimated quantity and type of substances involved in the emergency, incident or exception;
- g) the actual or potential cause of the emergency, incident or exception;
- h) a description of the nature and effects of the emergency, incident or exception including the risk of impacts to the environment or public health;
- i) immediate actions taken to prevent or mitigate any further environmental harm or adverse impacts to public health caused by the release; and
- j) details of any notification of any person who may have been affected by the emergency, incident or exception.

A14 Within fourteen days following the initial notification of an emergency, incident or exception, further written advice must be provided to the administering authority, including the following:

- a) results and interpretation of any samples taken and analysed;
- b) outcomes of actions taken at the time to prevent or minimise unlawful environmental harm; and
- c) proposed actions to prevent a recurrence of the emergency, incident or exception.

A15 **Complaints**

Records must be kept of all environmental complaints received about the activities to which this approval relates, including the following details:

- a) name, address and contact number for 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; and
- h) the person responsible for resolving the complaint.

A16 When requested by the administering authority, the registered operator of this approval must undertake relevant monitoring within a period of two weeks to investigate any complaint of environmental harm which, in the opinion of the authorised officer, is neither frivolous or vexatious or based on mistaken belief. The results of the investigation (including an analysis and interpretation of the monitoring results) and abatement measures implemented must be provided to the administering authority within five days of completion of the investigation.

A17 Third party auditing

Compliance with the conditions of this approval must be audited by an appropriately qualified third party auditor, within one year from the date of grant of this approval and again every three years of operation afterwards.

A18 A suitably qualified third party auditor must certify in writing that the SBMP has been prepared by having regard to, and appropriately applying, the relevant guidelines (being those applicable on a national, state or a regional basis) which the third party auditor considers should be applied in undertaking the SBMP including relevant Federal guidelines, State guidelines and ANZECC where published.

A19 Upon receipt of the final third party audit report, the registered operator of this approval must submit a copy to the administering authority.

A20 The third party auditor must provide a statutory declaration to certify the independent findings of the audit in the report.

A21 The financial cost of the third party audit is the responsibility of the registered operator of this approval.

A22 The registered operator of this approval must act immediately upon any non compliance arising from the audit report by:

- a) investigating any non-compliance issues identified; and
- b) as soon as practicable, implementing measures or taking necessary action to ensure compliance with the conditions of this approval.

A23 Within three months of the submission of the audit report to the administering authority, the registered operator of this approval must provide a written report to the administering authority addressing the:

- a) actions taken by the holder to ensure compliance with this approval; and
- b) actions taken to prevent a recurrence of any non-compliance issues identified.

A24 Annual Monitoring Report

An annual monitoring report must be prepared by June 30 of each year (commencing 30 June 2011) covering the period 1 April to 31 March and presented to the administering authority when requested. This report shall include but not be limited to:

- a) a summary of the previous twelve months monitoring results required under this approval including monitoring performed under the SBMP in graphical form showing relevant limits;
- b) an evaluation/explanation of the data from any monitoring programs;
- c) a summary of any record of quantities of releases required to be kept under this approval;
- d) a summary of the record of equipment failures or events recorded, which have resulted in non compliance with approval conditions; and
- e) an outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs.

A25 Records

The registered operator of this approval must provide a copy of the annual monitoring report to the administering authority within five business days of that request.

A26 Financial assurance

A financial assurance must be provided to the administering authority in accordance with the following requirements:

- a) on or before 1 February 2011 the registered operator of this approval must provide and subsequently maintain a financial assurance in the form of an unconditional and on demand bank guarantee in favour of the administering authority for an amount of AUD\$2 million;
- b) the bank guarantee will be incremented annually in accordance with the Consumer Price Index as determined by the Australian Bureau of Statistics;
- c) within 30 days of this increase the registered operator of this approval must provide certification from the financial institution to the administering authority that the increment has been made; and
- d) the financial assurance must be maintained until the administering authority is satisfied that no claim is likely to be made on the financial assurance in accordance with section 367 of the Environmental Protection Act 1994 following which the registered operator may apply to the administering authority to have the financial assurance discharged.

A27 Monitoring

Where monitoring is required by this approval it must be:

- a) performed by a person or body possessing appropriate experience and qualifications to perform the required sample collection, measurements and determinations;

- b) conducted in accordance with methods prescribed in the latest edition of the administering authority's monitoring and sampling manual;
- c) conducted at monitoring locations identified within this approval;
- d) carried out on representative samples;
- e) carried out using instruments and devices that are calibrated, and appropriately operated and maintained; and
- f) laboratory testing must be undertaken using a laboratory accredited (e.g. NATA) for the method of analysis being used.

A28 Trained / Experienced Operator(s)

The daily operation of the wastewater treatment system and pollution control equipment must be carried out by a person(s) with appropriate experience and/or qualifications to ensure the effective operation of that treatment system and control equipment.

A29 Alterations

The registered operator of this approval must not change, replace or operate any plant or equipment associated with the activity if the change, replacement or operation increases, or is likely to substantially increase, the risk of environmental harm.

Condition**Acoustic****D1 General**

Noise from the activities must not cause an environmental nuisance at any sensitive place or commercial place.

- D2 In the event of a complaint about noise from the activities which, in the opinion of the authorised officer, is neither frivolous or vexatious or based on mistaken belief, the noise from the activities must not exceed the noise limits stated in Schedule D - Table 1 (Noise limits).

Schedule D - Table 1 (Noise limits)

Noise level dB(A) measured as	Monday to Saturday			Sundays and public holidays		
	7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am
Noise measured at a 'sensitive place'						
LA10, adj, 10 mins	b/g+5	b/g+5	b/g+5	b/g+5	b/g+5	b/g+5

LA1, adj, 10 mins	b/g+10	b/g+10	b/g+5	b/g+10	b/g+10	b/g+5
Noise measured at a 'commercial place'						
LA10, adj, 10 mins	b/g+10	b/g+10	b/g+5	b/g+10	b/g+10	b/g+5
LA1, adj, 10 mins	b/g+15	b/g+15	b/g+10	b/g+15	b/g+15	b/g+10

Note: b/g – background noise level.

D3 Noise monitoring

When noise monitoring and recording is undertaken it must include the following descriptors, characteristics and matters:

- a) LAN,T (where N equals the statistical levels of 1, 10 and T = 10 minutes);
 - b) background Noise LA90,T;
 - c) the level and frequency of occurrence of impulsive or tonal noise and any adjustment penalties to statistical levels;
 - d) atmospheric conditions including temperature, relative humidity and wind speed and directions;
 - e) effects due to any extraneous factors (ie. such as traffic noise);
 - f) location, date and time of monitoring; and
 - g) if the complaint concerns low frequency noise, one third octave band measurements in dB(LIN) for centre frequencies in the 10 – 200 Hz range.
- D4 If monitoring indicates the limits in Schedule D - Table 1 (Noise limits) have been exceeded, the registered operator of this approval must undertake an investigation to identify the cause of the exceedence. If the exceedence is found to be attributable to the activities, the registered operator of this approval must implement abatement measures so that emissions of noise generated by the activities do not exceed limits listed in Schedule D - Table 1.
- D5 The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's noise measurement manual.

Condition

Air

B1 Point source air emissions

Point source emissions to air must only be released to the atmosphere from the release points specified in Schedule B - Table 1 (Point source air emissions) and must be directed upwards without any impedance or hindrance.

Schedule B - Table 1 (Point source air emissions)

Release point ¹	Minimum release height (m)	Velocity (m/s) ^{2,7}	Contaminant parameter	Maximum contaminant concentration ^{3,4,5,6}	Frequency of monitoring
B1 – Concentrate rotary dryer stack ⁵	32	10 ⁶ (minimum) 12 ⁶ (average) ²	Total particulate matter	50 mg/Nm ³	Once every six months
			Sulphur dioxide	100 mg/Nm ³	
			Carbon monoxide	125 mg/Nm ³	
			Oxides of nitrogen (expressed as NO ₂ @ 7% O ₂)	500 mg/Nm ³	
			Lead and its compounds expressed as lead	1 mg/Nm ³	
			Zinc and its compounds expressed as zinc	10 mg/Nm ³	
			Total heavy metals	1 mg/Nm ³	
			Volatile organic compounds	40 mg/Nm ³	
B2 – North scrubber stack	32	18 (minimum) 20 (average) ²	Total particulate matter	50 mg/Nm ³	Once every six months.
			Lead and its compounds expressed as lead	1 mg/Nm ³	
			Zinc and its compounds expressed as zinc	10 mg/Nm ³	
			Total heavy metals	1 mg/Nm ³	

B3 – South scrubber stack	32	21 (minimum) 25 (average) ²	Total particulate matter	50 mg/Nm ³	Once every six months
			Lead and its compounds expressed as lead	1 mg/Nm ³	
			Zinc and its compounds expressed as zinc	10 mg/Nm ³	
			Total heavy metals	1 mg/Nm ³	
B4 – Wharf stack	18	7 (minimum) 10 (average) ²	Total particulate matter	50 mg/Nm ³	Once every six months
			Lead and its compounds expressed as lead	1 mg/Nm ³	
			Zinc and its compounds expressed as zinc	10 mg/Nm ³	
			Total heavy metals	1. mg/Nm ³	

1. Emission limits from release point B1 exclude the contribution from site power station that also discharges through the stack.
2. Average velocity based on four (4) consecutive sampling events. Minimum and average velocity requirements for B1 include exhaust stream from the site power station.
3. Oxides of nitrogen limits are based on NHandMRC (1985) National guidelines for control of emissions of air pollutants from new stationary sources (Table 1).
4. The above total heavy metals limit is for the total of the lead, cadmium, chromium, arsenic, vanadium and antimony and their respective compounds.
5. All determinations of point source emissions to air are from isokinetic sample results.
6. All determinations of point source emissions to air are corrected to Dry @ Standard Temperature and Pressure (273K, 101.3KPa).
7. Measurements taken to determine the velocity at release point B1 must be taken within the stack and in the pipe work after scrubbing has occurred.

- B2 Point source emissions to air must only be released to the atmosphere from a release point at a height not less than the corresponding height stated for that release point in Schedule B - Table 1 (Point source air emissions).
- B3 Point source emissions to air must only be released to the atmosphere from a release point at a velocity not less than the corresponding velocity stated for that release point in Schedule B - Table 1 (Point source air emissions).
- B4 Point source emissions to air must only be released from a release point, and must not cause an exceedance of the maximum contaminant concentration stated in Schedule B - Table 1 (Point source air emissions) when monitored not less frequently than that specified in Schedule B - Table 1.
- B5 The registered operator of this approval must conduct and keep records of a monitoring program of contaminant releases to the atmosphere at the release points, frequency, and the contaminant concentration parameters specified in Schedule B - Table 1 (Point source air emissions) that complies with the following:
- a) monitoring provision for the release points specified in Schedule B - Table 1 must comply with the Australian Standard AS 4323.1 - 1995 "Stationary source emissions Method 1: Selection of sampling provisions";
 - b) all determinations of contaminant releases to the atmosphere must be made in accordance with methods prescribed in the most recent version of the administering authority's Air Quality Sampling Manual. If monitoring requirements for specific contaminants are not described in the Manual, monitoring protocols must be in accordance with a method as approved by New South Wales DEC/EPA, Victorian EPA or United States EPA;
 - c) the following determinations must be made for each monitoring event specified in Schedule B – Table 1:
 - (i) gas velocity and volume flow rate;
 - (ii) temperature and pressure; and
 - (iii) water vapour, oxygen and carbon dioxide concentration;
 - d) the six monthly samples required in Schedule B – Table 1 must be taken at a time when the samples are representative of near maximum plant emissions and all pollution control equipment is in operation;
 - e) during the six monthly sampling the following additional information must be recorded:
 - (i) fuel type and consumption rate of the rotary dryer;
 - (ii) the concentrate type, feed rate and moisture content of the feed of the rotary dryer;
 - (iii) the recirculating liquor rate being applied to each of the off-gas scrubbers;

(iv) if emissions are being directed into the dryer stack from the associated power plant:

- A. the type of fuel being burned in the power plant;
- B. the generator units contributing; and
- C. electrical load;

(v) reference to the actual test methods and accuracy.

B6 **Wet Scrubbers**

All effluent gases, dust and vapours discharged to the atmosphere via release points B1, B2, B3 and B4, as specified in Schedule B – Table 1 (Point source air emissions), must be treated in a wet scrubber prior to release.

B7 Each scrubber must be fitted with a device to monitor the flow rate of liquid to the unit and to indicate by both visual and audible alarm functions if liquid flow failure to the unit occurs.

B8 All collected material removed from the wet scrubbers must be reused at the site or disposed of to a facility that can lawfully accept such waste.

B9 **Fuel Type**

The only type of fuel to be burned in the rotary dryer under normal operating conditions is either diesel or other fuel oil.

B10 The elements within the other fuel oil, as prescribed in condition B9 must not exceed the levels by weight specified in Schedule B - Table 2 (Other fuel oil) at any time.

Schedule B – Table 2 (Other fuel oil)

Elements	Maximum concentration (by weight)
Arsenic	5 ppm
Cadmium	2 ppm
Chromium	10 ppm
Lead	50 ppm
Polychlorinated bi-phenols	2 ppm
Sulphur	1.0%

B11 **Odour and noxious or offensive airborne contaminant nuisance**

The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activities (including fugitive emissions) must not cause an environmental nuisance at any sensitive place or commercial place.

B12 When requested by the administering authority, monitoring of noxious or offensive odours or any other noxious or offensive airborne contaminants must be undertaken to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance caused by noxious or offensive odours or airborne contaminants from the site and the results provided to the administering authority within 14 days following completion of monitoring. Monitoring must be carried out at a place(s) relevant to the potentially affected sensitive place or commercial place and at upwind control sites.

B13 Sulphur dioxide

The activities are to be conducted in such a manner so as to not cause any exceedence of the air quality limits prescribed in Schedule B – Table 3 (Ambient air quality limits – sulphur dioxide) when measured at a sensitive place or a commercial place.

Schedule B - Table 3 (Ambient air quality limits – sulphur dioxide)

Contaminant	Limit type	Air quality limit ¹	
Sulphur dioxide	Maximum as one hour average	570 µg/m ³	0.2 ppm
Sulphur dioxide	Maximum as 24 hour average	230 µg/m ³	0.08 ppm
Sulphur dioxide	Maximum as annual mean	1. g/m ³	0.02 ppm

1. Ambient air quality limits are based on Schedule 1 of the *Environmental Protection (Air) Policy 2008*.

B14 If sulphur dioxide levels in the concentrate storage shed exceed 50ppm when measured in accordance with the Karumba Port Facility: Karumba Community Sulphur Dioxide Monitoring and Response Procedure, then monitoring of sulphur dioxide must be carried out within 24 hours in the community to investigate any potential for environmental harm. Monitoring must be carried out at a place(s) relevant to potentially affected sensitive places and at upwind control sites and results of such monitoring must be provided to the administering authority within 14 days following completion.

B15 If monitoring of sulphur dioxide undertaken as prescribed by B14 indicates the limits in Schedule B - Table 3 (Ambient air quality limits – sulphur dioxide) have been exceeded at a sensitive place or a commercial place, the registered operator of this approval must undertake an investigation to identify the cause of the exceedence. If the exceedence is found to be attributable to the activities, the registered operator of this approval must implement measures to ensure that sulphur dioxide generated by the activities do not exceed limits listed in Schedule B - Table 3 when measured at a sensitive place or a commercial place.

B16 Dust nuisance

The release of dust and/or particulate matter resulting from the activities (including fugitive emissions) must not cause an environmental nuisance at any sensitive place or commercial place.

B17 When requested by the administering authority, monitoring of dust and/or particulate matter must be undertaken to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance caused by dust and/or particulate matter from the site and the results provided to the administering authority within 14 days following completion of monitoring.

B18 Monitoring must be carried out at a place(s) relevant to the potentially affected sensitive place/commercial place and at upwind control sites and may utilise monitoring data derived from monitoring locations mentioned in Schedule B - Table 6 (Ambient air quality and dust nuisance monitoring program) where these are relevant to such places.

B19 Monitoring must include:

a) for a complaint alleging dust nuisance, dust deposition in accordance with:

(i) Australian Standard AS/NZS3580.1.1:2007 “Methods for siting and analysis of ambient air, Part 1.1: Guide for siting air monitoring equipment” (or more recent versions as they become available);

(ii) Australian standard AS/NZS3580.10.1 of 2003 “Methods for sampling and analysis of ambient air method 10.1: Determination of particulate matter -Deposited matter -Gravimetric method” (or more recent versions as they become available); and

(iii) the administering authority’s “Air Quality Sampling Manual, first edition, November 2007 (as amended or revised);

b) for a complaint alleging adverse health effects caused by dust, the concentration per cubic metre of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM10) suspended in the atmosphere over a 24hr averaging time. Monitoring must be conducted in accordance with:

(i) AS/NZS3580.9.6:2003 “Ambient air – Particulate matter – Determination of suspended particulate PM10 high volume sampler with size selective inlet – Gravimetric method (or more recent versions as they become available); or

(ii) an alternative method of monitoring PM10 which may be permitted by the “administering authority’s “Air Quality Sampling Manual, first edition, November 1997 (as amended or revised).

B20 Ambient air quality and dust deposition monitoring

The activities are to be conducted in such a manner so as to not cause any exceedence of the air quality limits stated in Schedule B – Table 4 (Ambient air quality limits) and the maximum limits in Schedule B – Table 5 (Dust deposition limits, trigger values and dust quality), at or beyond the boundaries of the site.

Schedule B - Table 4 (Ambient air quality limits)

Contaminant	Limit type	Air quality limit ⁴
Particulates (PM ₁₀ fraction) ²	24 hour average (5 days exceedence allowed each year including natural causes)	50 µg/m ³
Arsenic and its compounds measured as the total metal content in (PM ₁₀ fraction) ^{1,2}	annual mean	0.006 µg/m ³
Cadmium and its compounds measured as the total metal content in (PM ₁₀ fraction) ^{1,2}	annual mean	0.005 µg/m ³
Lead and its compounds measured as the total metal content in total suspended particulates (TSP) ⁵	annual mean	0.5 µg/m ³
Zinc and its compounds measured as the total metal content in total suspended particulates (TSP) ⁵	24 hour average	Measured for evaluation of dust control effectiveness – no limits specified

1. The registered operator of this approval may elect to monitor these contaminants as the total metal content in total suspended particulates and meet the same limit.

2. The registered operator of this approval may elect to monitor total suspended particulates (TSP) and assume that the PM₁₀ fraction is 60% of TSP.

3. Air quality limits are based on Schedule 1 of the *Environmental Protection (Air) Policy 2008*.

4. Metal analysis is to be carried out in accordance with a methodology, sufficient to produce representative results capable of comparison against the respective limits and trigger values, that is documented in the SBMP.

5. Measurement methods in accordance with the SBMP: Air quality Management.

Schedule B – Table 5 – (Dust deposition limits, trigger values and dust quality)

Contaminant	Limit type	Value of Deposition Limit/Trigger
Arsenic and its compounds as arsenic ²	Trigger value	4 µg/m ² /day (calculated as an annual average)
Cadmium and its compounds as cadmium ²	Trigger value	2 µg/m ² /day (calculated as an annual average)
Lead and its compounds as lead ²	Trigger value	100 µg/m ² /day (calculated as an annual average)

Lead and its compounds as lead ²	Maximum Limit	250 µg/m ² /day (calculated as an annual average)
Total insoluble matter (insoluble analysis and particulate matter deposition rate) ¹	Maximum Limit	120 mg/m ² /day ¹

1. Particulate matter deposition limit applies in respect of all sensitive places beyond the boundary of the site and is calculated over a nominal month as per AS/NZS3580.10.1 of 2003 (or more recent editions).

2. Metal analysis is to be carried out in accordance with a methodology, sufficient to produce representative results capable of comparison against the respective limits and trigger values, that is documented in the SBMP.

- B21 An ambient air quality monitoring program must be conducted at the monitoring points specified in Schedule B – Table 6 (Ambient air quality and dust nuisance monitoring program) and shown in Schedule G – Figures 1 and 2 for the contaminant parameters prescribed in Schedule B – Table 4 (Ambient air quality limits) and Schedule B – Table 5 (Dust deposition limits, trigger values and dust quality) at not less than the minimum monitoring frequencies specified in Schedule B – Table 6.

Schedule B - Table 6 (Ambient air quality and dust nuisance monitoring program)

Monitoring location	Map reference (GDA94, MGA zone 54)		Contaminant parameters ⁵	Measurement period	Minimum monitoring frequency
	Easting	Northing			
3 Riverview Drive (North HVAS)	483020	8066927	Total suspended particulate matter (TSP) – High volume sampler gravimetric method	24hour ¹	Once every six days
			arsenic, lead, zinc and cadmium contained within suspended particulate matter (TSP) (µg/m ³)	24hour ¹	
Karumba School (South HVAS)	481441	8064834	Total suspended particulate matter (TSP) – High volume sampler gravimetric method	24hour ¹	
			arsenic, lead, zinc and cadmium contained within suspended	24hour ¹	

			particulate matter (TSP) ($\mu\text{g}/\text{m}^3$)		
KDG1, DPI Yard	481498	8065018	Dust deposition - total insoluble matter in mg/square metres/day) ⁴ Arsenic, cadmium, lead and zinc in deposited particulate matter (mg/kg)	30 days \pm 2 days	Once every calendar month
KDG2, Water Tower	482737	8065306			
KDG3, Karumba School	483095	8067069			
KDG4, Wells Plant Hire	482056	8065467			
KDG5, Western boundary	481887	8065450			
KDG7, Eastern boundary	482082	8065830			
KDG9, The Point	481902	8069698			
KDG10, Recreation Club	484444	8068143			
KDG11, Highbanks	481161	8064398			
KDG16 (Reference site 1) ^{2,3}	490293	8070666			
KDG17 (Reference site 2) ^{2,3}	485332	8065359			
KDG18 (Reference site 3) ^{2,3}	481885	8062440			

1. For the definition of a "24 hour" period, see Australian Standard AS/NZ3580.9.3.2003 – 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.

2. Note KDG16, KDG17 and KDG18 monitoring is subject to accessibility in prevailing safety, weather and flooding conditions.

3. Trigger values and contaminant limits do not apply to reference sites. Any non-conformance with limits at reference sites does not constitute a breach of this approval.

4. For interpretation purposes.

5. Metal analysis is to be carried out in accordance with a methodology, sufficient to produce representative results capable of comparison against the respective limits and trigger values that are documented in the SBMP.

- B22** In the event of any monitoring showing exceedence of a dust deposition limit or dust quality trigger value specified in Schedule B - Table 5 (Dust deposition limits, trigger values and dust quality), the registered operator of this approval must:
- a) complete an investigation to identify the potential cause of the exceedence and the potential for environmental harm being caused or likely to be caused by the exceedence; and
 - b) provide a written report to the administering authority within 3 months of the date of the original exceedence, outlining:
 - (i) details of the investigation carried out; and
 - (ii) actions taken to prevent environmental harm.

B23 High volume samplers

High volume samplers used for monitoring required by this approval must:

- a) meet the specifications, installation and use of high volume samplers; and
- b) all samples collected from high volume air samplers must comply with:
 - (i) Australian Standard AS/NZS 3580.1.1:2007 "Methods for siting and analysis of ambient air. Part 1.1: Guide to siting air monitoring equipment";
 - (ii) Australian Standard AS/NZ 3580.9.3.2003 (or more recent editions) - 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; and
 - (iii) the administering authority's "Air Quality Sampling Manual", first edition, November 1997 (as amended or revised).

B27 Weather station

Under circumstances where relevant wind, temperature and rainfall data cannot be provided to the registered operator of this approval from the Karumba meteorological station operated by the Bureau of Meteorology, the registered operator of this approval must deploy or have access to a meteorological station to continuously measure and record wind speed and direction, temperature and rainfall data when and where these data measurements are required.

- B28** The meteorological station must be installed in accordance with the latest edition of the Bureau of Meteorology - Observation Specification No.2013.1 - Guidelines for the siting and exposure of meteorological instruments and observing facilities.
- B29** The registered operator of this approval must record, compile, evaluate and keep all monitoring records obtained from the meteorological station.

Condition

Land

E1 Regulated waste

Regulated waste must be removed and transported from the site by a person who holds a current approval to transport such wastes to a facility that is lawfully able to accept waste under the *Environmental Protection Act 1994*.

E2 Regulated waste may be temporarily stored on site awaiting removal.

E3 Regulated waste stored awaiting movement off site must be clearly marked to identify the contents.

E4 The regulated waste storage areas must be designed so that there is more than one vehicular access point and that fire fighting equipment and resources are accessible no matter what the wind direction.

E5 Where regulated waste is removed from the site the registered operator of this approval must keep records of the following:

- a) the date, quantity and type of waste removed;
- b) the name of the regulated waste transporters that removed the waste; and
- c) the intended treatment/disposal destination of the waste.

Note: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this approval condition.

E6 If the registered operator of this approval becomes aware that a person has removed regulated waste from the site and disposed of the regulated waste in a manner which is not authorised by this approval or improper or unlawful, then the registered operator of this approval must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

F1 Storage and handling of dangerous goods

All explosive, corrosive, toxic or otherwise hazardous substances (solids, liquids or gases) including classified dangerous goods must be stored and handled in accordance with the relevant Australian Standard where such a standard is available and the manufacturer's recommendations for storage and handling.

F2 All containment systems for chemicals and flammable or combustible liquids must be designed to minimise rainfall collection within the system.

F3 Spillage of any contaminant must be contained and rectified to prevent environmental harm.

Condition

Water

C1 Release of contaminants to waters

Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters except as permitted under the conditions of this approval.

- C2 The release of contaminants to waters must only occur from the release points specified in Schedule C - Table 1 (Release of wastewater and stormwater to waters) and depicted in Schedule G - Figure 3 attached to this approval.

Schedule C - Table 1 (Release of wastewater and stormwater to waters)

Release points	Map reference (GDA94, MGA zone 54)		Contaminant Source and Location	Receiving waters description
	Easting	Northing		
W1 – diffuser in the Norman River	481941	8065807	Treated process water	Norman River
W3 - First flush stormwater pond spillway	481937	8065659	Contaminated site stormwater	Norman River

- C3 The release of bypass water from the first flush stormwater pond to waters must only occur due to stormwater overflow at the first flush pond spillway.
- C4 The release of contaminants to waters from the release points specified in Schedule C – Table 1 (Release of wastewater and stormwater to waters) must be monitored at the locations and frequencies specified in Schedule C - Table 2 (Monitoring points for release) for each quality characteristic specified in Schedule C - Table 3 (W1 Release contaminant limits measured at PSP1) and Schedule C - Table 4 – (W3 Release contaminant trigger values measured at PSP3).

Schedule C - Table 2 (Monitoring points for release)

Monitoring point	Map reference (GDA94, MGA zone 54)		Receiving waters description	Monitoring frequency
	Easting	Northing		
Monitoring points for release				
PSP1 - BOD plant – at discharge pipeline from pH tank	481992	8065671	Release from W1 to Norman River	Weekly in any week in which a release occurs

PSP3 - First flush stormwater pond spillway	481936	8065658	Release from W3 to Norman River	Daily during the period of the release
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Schedule C - Table 3 – (W1 Release contaminant limits measured at PSP1)

Quality Characteristic	Contaminant release limit	Contaminant trigger value ¹
pH (pH Unit)	6.0 – 9.0	Not applicable
Total suspended solids	30 mg/L	30 mg/L
Total arsenic	0.01 mg/L	Not applicable
Total cadmium	0.1 mg/L	Not applicable
Total lead	0.1 mg/L	0.075 mg/L
Total zinc	2 mg/L	1.75 mg/L
5 day biochemical oxygen demand	60 mg/L	20 mg/L
Total phosphorus	0.5 mg/L	0.3 mg/L
Total nitrogen	15.0 mg/L	1. mg/L

1. Contaminant trigger values are based upon usual plant performance data.

Schedule C - Table 4– (W3 Release contaminant trigger values measured at PSP3)

Quality Characteristic	Contaminant trigger value
pH (range)	5.0 – 9.0
Total suspended solids	50 mg/L
Total Arsenic	0.5 mg/L
Total Cadmium	0.1 mg/L
Total Lead	0.5 mg/L
Total Zinc	5 mg/L
Oil and grease	No visible film

C5 The release of contaminants to waters from release points W1 must not exceed the contaminant release limit for each quality characteristic stated in Schedule C - Table 3 (W1 Release contaminant limits measured at PSP1) when measured at each monitoring point specified in Schedule C - Table 2 (Monitoring points for release).

C6

If, during a release event:

a) the quality characteristics of the release from release point W1 exceed any of the contaminant trigger values specified in Schedule C – Table 3 (W1 Release contaminant limits measured at PSP1); or

b) the quality characteristics of the release from release point W3 exceed any of the contaminant trigger values specified in Schedule C – Table 4 (W3 Release contaminant trigger values measured at PSP3)

then the registered operator of this approval must complete an investigation to determine the cause of the exceedence and the potential for environmental harm and provide a written report to the administering authority within three months, outlining:

- (1) details of the investigations carried out;
- (2) details of the environmental impacts observed; and
- (3) actions taken to prevent environmental harm.



- C7 Impacted sites and reference sites must be monitored at the locations and frequencies specified in Schedule C - Table 5 (Monitoring points for receiving water) for each quality characteristic stated in Schedule C - Table 6 (Receiving environment contaminant limits and trigger levels).

Schedule C - Table 5 (Monitoring points for receiving water)

Monitoring point	Map reference (GDA94, MGA zone 54)		Receiving waters description	Monitoring frequency
	Easting	Northing		
Receiving environment - impacted sites				
PS1 - 100 metres upstream of the diffuser	481886	8065733	Norman River	Weekly in any week in which a release occurs
PS2 - 100 metres downstream of the diffuser	482008	8065899	Norman River	
Receiving environment - reference sites				
PS3 – 2.6 kilometres upstream of the diffuser	480088	8064090	Norman River	Weekly in any week in which a release occurs
PS4– 4.1 kilometres downstream of the diffuser	481375	8068901	Norman River	

1. Metals and metalloids must be monitored twice per year at low levels of detection and weekly at commercial laboratory levels of detection.

Schedule C - Table 6 (Receiving environment contaminant limits and trigger levels)

Quality Characteristic	Receiving water limit ^{1,2,3,7}	Contaminant trigger levels ^{1,4,5,6,7}
pH (range)	6.0 – 9.0	7 – 8.5
Dissolved oxygen (range)	N/A	80% -120%
Temperature	N/A – measured for interpretation purposes only	
Electrical conductivity	N/A – measured for interpretation purposes only	
Turbidity	N/A	20 NTU
Arsenic	30 µg/L	2.3 µg/L
Cadmium	5.5 µg/L	0.5 µg/L
Lead	4.4 µg/L	1 µg/L
Zinc	15 µg/L	5 µg/L
Total phosphorus	N/A	20 µg/L
Total nitrogen	N/A	250 µg/L
Oil and grease	No visible film	N/A

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
 2. Contaminant limits for arsenic in the receiving waters are based on ANZECC 2000 Water Quality Guidelines - seafood consumption.
 3. Contaminant trigger levels for cadmium, lead and zinc in the receiving waters are based on ANZECC 2000 Water Quality Guidelines – 95% ecosystem protection.
 4. Contaminant trigger for arsenic in the receiving waters are based on ANZECC 2000 Water Quality Guidelines – ECL for marine waters (refer section 8.3.7).
 5. Contaminant trigger limits for pH, dissolved oxygen, turbidity, total phosphorous and total nitrogen are based on ANZECC 2000 Water Quality Guidelines, Table 3.3.4.
 6. Contaminant trigger levels for cadmium, lead and zinc are based on ANZECC 2000 Water Quality Guidelines - seafood consumption.
 7. The determination of total metals and metalloids must be compensated for total suspended particulates.
- C8 The release of contaminants to waters must not cause an exceedance of the receiving environment contaminant limit for each quality characteristic stated in Schedule C - Table 6 (Receiving environment contaminant limits and trigger levels) when measured at the monitoring points for impacted sites specified in Schedule C - Table 5 (Monitoring points for receiving water).
- C9 If the release of contaminants to waters causes an exceedance of the trigger values specified in Schedule C - Table 6 (Receiving environment contaminant limits and trigger levels) during a release event, the registered operator of this approval must compare the results of the impacted site to the data from reference monitoring sites and:
- a) if the level of contaminants at the impacted site does not exceed the reference monitoring site data, then no action is to be taken; and
 - b) if the level of contaminants at the impacted site is greater than the reference monitoring site data, complete an investigation in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within three months, outlining:
 - (i) details of the investigations carried out; and
 - (ii) actions taken to prevent environmental harm.
- Note: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with (C9)b of this condition, no further reporting is required for subsequent trigger events for that quality characteristic within the three month investigation period.*
- C10 The daily quantity of contaminated water discharged to waters from each release point must be measured using a calibrated flow meter and recorded.
- C11 All discharges from release point W1 must be released through a suitable diffuser to achieve a minimum dilution of 100 to 1 within a distance of 100 metres.
- C12 The release of contaminants directly or indirectly to waters:
- a) must not produce any visible discolouration of receiving waters; nor

b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

C13 Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters.

C14 Stream sediment contaminant levels

Sediment quality of impacted sites and reference sites must be monitored twice a year (once at the end of the wet season and once at the end of the dry season) at the monitoring locations in Schedule C - Table 5 (Monitoring points for receiving water) and Figure G1 (monitoring points) and for the parameters defined in Schedule C - Table 7 – (Stream sediment trigger and contaminant levels).

Schedule C - Table 7 – (Stream sediment trigger and contaminant levels)

Parameter	Unit ²	Contaminant Limit ^{1,3}	Trigger Level ^{1,4}
Total arsenic	mg/kg	80	8.34
Total cadmium	mg/kg	10	0.13
Total lead	mg/kg	220	34.42
Total zinc	mg/kg	410	86.21

1. Sediment concentrations are to be standardised to the /-- LESS THAN --/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-High).

4. Contaminant trigger levels for arsenic, cadmium, lead and zinc are based on the Norman River Baseline Study titled "Monitoring program for the South-East Gulf of Carpentaria" dated June 1999.

C15 Releases of contaminants must not result in an exceedence of sediment contaminant limits stated in Schedule C - Table 7 (Stream sediment trigger and contaminant levels).

C16 If quality characteristics of sediments exceed any of the trigger levels specified in Schedule C - Table 7 (Stream sediment trigger and contaminant levels) the registered operator of this approval must compare the results of the downstream site to the data from reference monitoring sites and:

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

b) if the level of contaminants at the downstream site is greater than the reference monitoring site data, complete an investigation in accordance with the ANZECC and ARMCANZ 2000 methodology, into the potential for environmental harm and provide a written report to the administering authority within one month, outlining:

(i) details of the investigations carried out; and

(ii) actions taken to prevent environmental harm.

Note: Where an exceedence of a trigger level has occurred and is being investigated, in accordance with clause C16 (b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic within the one month investigation period.

C17 All stream sediment sampling must be undertaken in accordance with the most recent version of AS/NZS5667.12 Guidance on Sampling of Bottom Sediments.

C18 Provision of treated wastewater to other persons

If responsibility of the treated waste water is given or transferred to another person:

- a) the registered operator of this approval must make the persons aware of the General Environmental Duty under section 319 of the Environmental Protection Act 1994 and the characteristics of the treated waste water that may cause environmental harm or present a public health risk;
- b) the responsibility of such treated waste water must only be given or transferred in accordance with a written agreement (the third party agreement);
- c) include in any new third party agreement a commitment from the person utilising the treated waste water that the person is aware of the General Environmental Duty under section 319 of the Environmental Protection Act 1994; and
- d) upon being notified or otherwise becoming aware that the person's use of treated waste water is causing or threatens to cause environmental harm or is posing a human health risk, and if the person does not rectify the situation upon written request, the giving and transferring responsibility for such treated waste water must cease.

C19 Transfer of treated waste water to other persons

The transfer of treated waste water to other persons must only occur at the transfer points stated in Table 8 (Release points for release of treated wastewater to other persons) and depicted in Schedule G – Figure 4 attached to this approval.

Schedule C - Table 8 (Release points for release of treated wastewater to other persons)

Transfer point	Map reference (GDA94, MGA zone 54)		Contaminant Source and Location
	Easting	Northing	
W2a - treated wastewater provision to a third person	483932	8065158	Treated process water from the BOD plant (PSP2)
W2b – treated wastewater provision to a third person	484035	8065339	

Schedule C - Table 9 (Quality limits for release of treated waste water to other persons)

Monitoring point	Map reference (GDA94, MGA zone 54)		Quality characteristic	treated waste water release limit	Monitoring frequency
	Easting	Northing			
PSP2	481982	8065662	pH (range)	6.0 - 9.0	Weekly in any week when a release to other persons occurs via this transfer point.
			Electrical conductivity	2.5 mS/cm	
			Total sulphate	1000 mg/L	
			Total arsenic	0.01 mg/L	
			Total cadmium	0.1 mg/L	
			Total lead	0.1 mg/L	
			Total zinc	2 mg/L	
			Total phosphorus	0.5 mg/L	
			Total nitrogen	15mg/L	

- C20 The transfer of treated wastewater to other persons must be monitored for each quality characteristic and at the frequency specified in Schedule C - Table 9 (Quality limits for release of treated waste water to other persons) and at the monitoring point specified in Schedule C - Table 9 and depicted in Schedule G – Figure 3.
- C21 Treated waste water transferred to other persons must not exceed the treated waste water release limits for each quality characteristic stated in Schedule C - Table 9 (Quality limits for release of treated waste water to other persons) when measured at each monitoring point specified Schedule C – Table 9.
- C22 Water Monitoring Reporting**
- The following information must be recorded in relation to all water monitoring required under the conditions of this approval:
- the date on which the sample was taken;
 - the time at which the sample was taken;
 - the monitoring point at which the sample was taken;

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

e) the release flow rate at the time of sampling for each release point.

C23 **Water General**

All necessary actions must be taken to ensure that water quality samples for receiving waters are collected from the locations identified within this approval, within one hour of each other.

C24 The total quantity of treated waste water released via release point W1 must not exceed 335 cubic metres per hour when measured as an average daily flow on any one day.

C25 **First flush stormwater**

All stormwater from any area of the site that may be contaminated with mineral concentrate (including roof surfaces, concrete aprons and roadways, but excluding any areas separately bunded to prevent stormwater runoff from the site) is to be directed into the first flush holding dam on the site.

C26 The first flush holding dam must have a minimum capacity to accept the stormwater runoff from a fifty (50) millimetre rainfall event from the site prior to any release of stormwater to waters.

C27 **Vehicle and equipment cleaning and wash down**

The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be directly released into any receiving waters.

Definition

DEFINITIONS

Words and phrases used throughout this permit¹ are defined below. Where a definition for a term used in this permit¹ is sought and the term is not defined within this permit¹ the definitions provided in the relevant legislation shall be used.

"**µg/m²/day**" means micrograms per square metre per day.

"**µg/m³**" means micrograms per cubic metre.

"**mg/Nm³**" means milligrams per normal cubic metre.

"**administering authority**" means the Department of Environment and Resource Management or its successor.

"**annual return**" means the return required by the annual notice (under section 316 of the *Environment Protection Act 1994*) for the section 73F registration certificate that applies to the development approval.

"**ANZECC 2000**" means the Australian and New Zealand Environment and Conservation Council Guidelines for Fresh and Marine Water Quality (2000).

"**approval**" means 'notice of development application decision' or 'notice of concurrence agency response' under the *Integrated Planning Act 1997* or *Sustainable Planning Act 2009*.

"**Australia New Zealand Food Standards Code**" means the food standards code published by Food Standards Australia New Zealand or its successor organisation.

"**Background noise level**" 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 10 minutes, using Fast response.

"**commercial place**" means a place used as an office or for business or commercial purposes excluding the land to which this approval relates.

"**dwelling**" means any of the following structures or vehicles that is principally used as a residence –

- a house, unit, motel, nursing home or other building or part of a building;
- a caravan, mobile home or other vehicle or structure on land;
- a water craft in a marina.

"**intrusive noise**" means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration –

- is clearly audible to, or can be felt by, an individual; and
- annoys the individual.

In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 – 1997 Acoustics – Description and Measurement of Environmental Noise Part 2 – Application to Specific Situations.

" **$L_{A10, adj, 10 mins}$** " means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response.

" **$L_{A1, adj, 10 mins}$** " means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response.

" **$L_{A, max adj, T}$** " means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"**land**" in the "land schedule" of this document means land excluding waters and the atmosphere.

"**mg/L**" means milligrams per litre.

"**mg/m²/day**" means milligrams per square metre per day.

"**measures**" includes any measures to prevent or minimise environmental impacts of the activity such as bunds, silt fences, diversion drains, capping, and containment systems.

"**natural flow**" means the flow of water through waters caused by nature.

"**normal cubic metre (Nm³)**" means the volume of dry gaseous contaminant which occupies 1 cubic metre at a temperature of zero degrees Celsius and at an absolute pressure of 101.3 kilopascals.

"**noxious**" means harmful or injurious to health or physical well-being.

"**NTU**" means nephelometric turbidity units.

"**offensive**" means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.

"**ppm**" means parts per million.

"**protected area**" means –

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

“receiving environment” means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this development approval.

“receiving waters” means all groundwater and surface water that are not disturbed areas authorised by this development approval.

“regulated waste” means non-domestic waste mentioned in Schedule 7 of the *Environmental Protection Regulation 1998* (whether or not it has been treated or immobilised), and includes -

- for an element - any chemical compound containing the element; and
- anything that has contained the waste.

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

“sensitive place” means –

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- a kindergarten, school, university or other educational institution; or
- a medical centre or hospital; or
- a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a World Heritage Area; or
- a public thoroughfare, park or gardens.

“site” means land or tidal waters on or in which it is proposed to carry out the development approved under this development approval.

“TSP” means total suspended particulates.

“watercourse” means a river, creek or stream in which water flows permanently or intermittently-

- in a natural channel, whether artificially improved or not; or
- in an artificial channel that has changed the course of the watercourse.

“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.

“works” or “operation” means the development approved under this development approval.

“you” means the holder of this development approval or owner / occupier of the land which is the subject of this development approval.

Schedule G - Figures

Schedule G – Figure 1



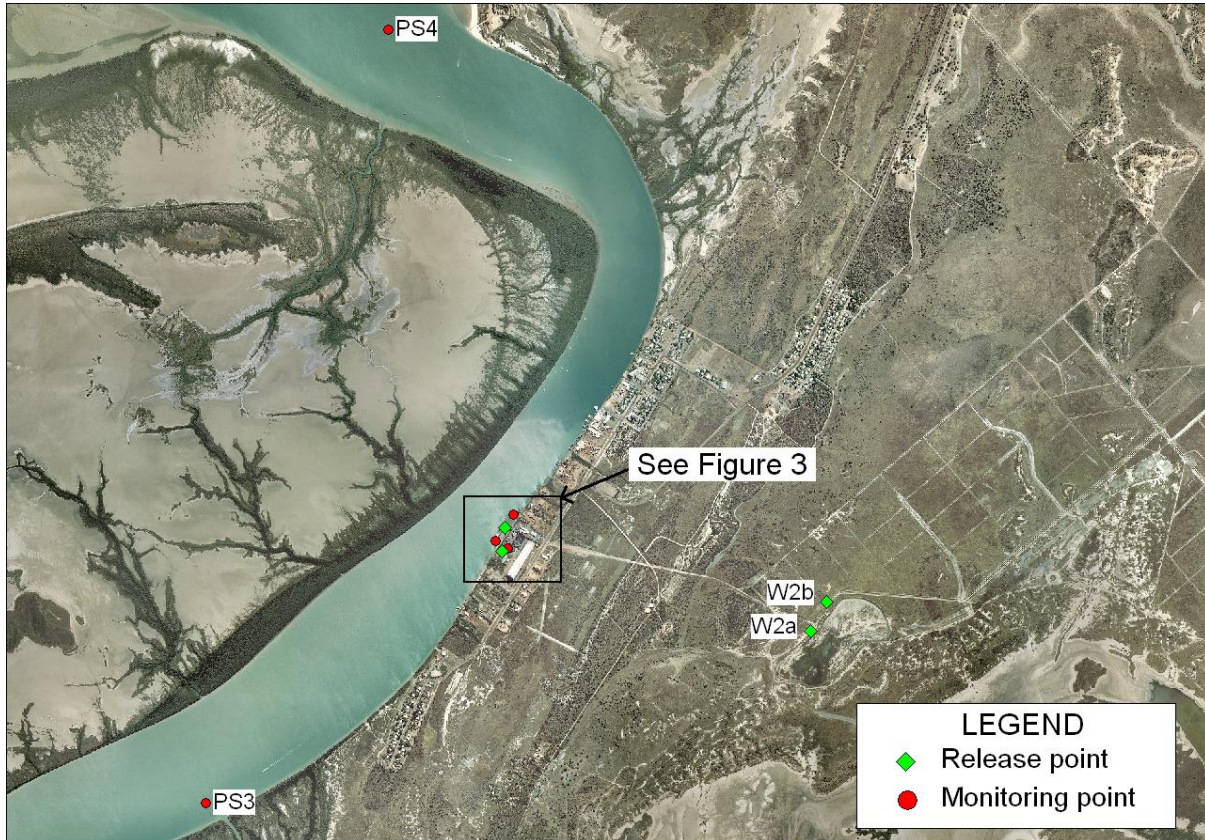
Schedule G – Figure 2



Schedule G – Figure 3



Schedule G – Figure 4



END OF CONDITIONS
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