

Environmental authority

Permit

Environmental Protection Act 1994

Environmental authority EPPR00590413

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

Environmental authority number: EPPR00590413

Environmental authority takes effect on 2 December 2024

Environmental authority holder(s)

Name(s)	Registered address
BOYNE SMELTERS LIMITED	155 Charlotte Street, BRISBANE CITY QLD 4000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 29 - Metal Foundry Operation, 3: Producing, in a year, the following quantity of non-ferrous metal castings using non-permanent moulds, (d) more than 5000t	Lot 4/SP144771 Lot 43/CTN1737 Lot 69/CTN1850 Lot 1/RP613635
Prescribed ERA, ERA 50 - Bulk Material Handling, 2: Loading or unloading 100t or more of bulk materials in a day or stockpiling bulk materials	
Prescribed ERA, ERA 30 - Metal smelting and refining, 1: Processing in a year, (d) more than 10,000t of metals or metalloids	
Prescribed ERA, ERA 08 - Chemical Storage, 3: Storing more than 500 cubic meters of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	
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	
Prescribed ERA, ERA 08 - Chemical Storage, 1: Storing a total of 50t or more of chemicals of dangerous goods class 1 or class 2, division 2.3 under subsection (1)(a)	

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Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 08 - Chemical Storage, 4: storing 200t or more of chemicals that are solids or gases, other than chemicals mentioned in items 1 to 3, under subsection (1)(d)	
Prescribed ERA, ERA 07 - Chemical Manufacturing, 6: Manufacturing, in a year, the following quantities of inorganic chemicals, other than inorganic chemicals to which items 1 to 4 apply, (a) 200t to 1000t	
Prescribed ERA, ERA 15 - Fuel burning, Using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour	
Prescribed ERA, ERA 60 - Waste disposal, 1: Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1) (a), (a) less than 50,000t	
Prescribed ERA, ERA 54 – Mechanical waste reprocessing, 2: Operating facility for receiving and mechanically reprocessing in a year, the following quantity of general waste (c) 10,000t or more	Lot 4/SP144771
Prescribed ERA, ERA 54 – Mechanical waste reprocessing, 3: Operating facility for receiving and mechanically reprocessing in a year, the following quantity of category 2 regulated waste (c) 10,000t or more	
Prescribed ERA, ERA 54 – Mechanical waste reprocessing, 4: Operating facility for receiving and mechanically reprocessing in a year, the following quantity of category 1 regulated waste (c) 10,000t or more	
Prescribed ERA, ERA 55 – Other waste reprocessing or treatment, 1: Operating a facility for receiving and reprocessing or treating in a year, the following quantity of general waste, (c) 10,000t or more	Lot 4/SP144771
Prescribed ERA, ERA 55 – Other waste reprocessing or treatment, 2: Operating a facility for receiving and reprocessing or treating in a year, the following quantity of category 2 regulated waste, (c) 10,000t or more	

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Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 55 – Other waste reprocessing or treatment, 3: Operating a facility for receiving and reprocessing or treating in a year, the following quantity of category 1 regulated waste, (c) 10,000t or more	
Prescribed ERA, ERA 61 – Thermal waste reprocessing and treatment, 2: Thermally reprocessing or treating, in a year, the following quantity of category 2 regulated waste, (c) 10,000t or more	Lot 4/SP144771
Prescribed ERA, ERA 61 – Thermal waste reprocessing and treatment, 3: Thermally reprocessing or treating, in a year, the following quantity of category 1 regulated waste, (c) 10,000t or more	
Prescribed ERA, ERA 62 – Resource recovery and transfer facility operation, 1: Operating a facility for receiving and sorting, dismantling baling or temporarily storing, (b) general waste	Lot 4/SP144771 Lot 43/CTN1737 Lot 69/CTN1850 Lot 1/RP613635
Prescribed ERA, ERA 62 – Resource recovery and transfer facility operation, 1: Operating a facility for receiving and sorting, dismantling baling or temporarily storing, (c) category 2 regulated waste	
Prescribed ERA, ERA 62 – Resource recovery and transfer facility operation, 1: Operating a facility for receiving and sorting, dismantling baling or temporarily storing, (d) category 1 regulated waste	

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

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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.



Signature

2 December 2024

Date

Giles Bezzina

Department of the Environment,
Tourism, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:

Minerals Business Centre
Department of the Environment, Tourism
Science and Innovation
Phone: (07) 4222 5352
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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)

Agency interest: General	
Condition number	Condition
A1	<p>Alterations</p> <p>No change, alteration or replacement of any plant or equipment is permitted if the change, alteration or replacement of the plant or equipment substantially increases, or is likely to substantially increase, the risk of environmental harm or environmental nuisance.</p>
A2	<p>Prevent and/or minimise likelihood of environmental harm</p> <p>In carrying out any activity to which this authority relates, all reasonable and practicable measures must be taken to prevent and/or to minimise the likelihood of environmental harm being caused.</p>
A3	<p>Maintenance of measures, plant and equipment</p> <p>The holder must:</p> <ul style="list-style-type: none"> (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this authority; (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	<p>Site Based Management Plan (SBMP)</p> <p>The holder must maintain and implement a SBMP which identifies 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 what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must also provide for the review of the 'continual improvement' in the overall environmental performance of all ERAs being carried out.</p>
A5	<p>The SBMP must address the following matters:</p> <ul style="list-style-type: none"> (a) environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals; (b) identification of environmental issues and potential impacts; (c) control measures for routine operations to minimise likelihood of environmental harm; (d) contingency plans and emergency procedures for non-routine situations; (e) organisational structure and responsibility; (f) effective communication; (g) monitoring of contaminant releases;

	<ul style="list-style-type: none"> (h) conducting environmental impact assessments; (i) staff training; (j) record keeping; and (k) periodic review of environmental performance and continual improvement.
A6	<p>A Third Party Auditor must certify in writing that the SBMP, required by Conditions (A4) and (A5) has been prepared:</p> <ul style="list-style-type: none"> (a) by a suitably qualified person with at least five (5) years' experience in the relevant discipline; (b) in a manner that is consistent with the requirements of condition (A4) and (A5); and (c) 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.
A7	<p>Emergency Incident Response Plan</p> <p>An Emergency Incident Response Plan must be maintained and implemented which complies with the provision clause 4.4.7 <i>Emergency Preparedness and Response</i> of ISO14001. The Emergency Incident Response Plan must include:</p> <ul style="list-style-type: none"> (a) an inventory of dangerous goods and environmentally hazardous material; (b) a documented identification of potential emergency situations; (c) scenario modelling for all emergency situations; (d) impact evaluation; (e) a defined chain of command; (f) organisational responsibilities; (g) communications plans; (h) procedures for responding to incidents including but not limited to: <ul style="list-style-type: none"> i. first alert; ii. capacity to apply dispersion modelling to any air emission incident that has, or has the potential for, adverse impacts beyond the site boundary. The modelling must have the capacity to report within 3 hours of an incident and be made available to the administering authority and other emergency services agencies, if required; iii. procedures that will be employed to minimise the risk of environmental harm resulting from the release of contaminants to the environment during abnormal or upset operating conditions; iv. communication procedures for ensuring that where adverse impacts are possible the potentially affected community and emergency service agencies are forewarned of the nature of the potentially adverse impacts; v. procedures for notifying potentially affected community, emergency services and relevant authorities of an incident;

	<ul style="list-style-type: none"> vi. incident investigation protocols; and vii. record keeping and reporting procedures.
A8	<p>The Emergency Incident Response Plan must be reviewed:</p> <ul style="list-style-type: none"> a) on any change or alteration to processes or equipment that has the potential to significantly increase the risk of causing environmental harm; b) immediately after an emergency or incident that is reportable to the administering authority or has the potential to cause environmental harm beyond the site boundary; or c) at least every five (5) years.
A9	No Management Plan required by this authority may be implemented or amended in a way that contravenes any condition of this authority or increases the risk of environmental harm.
A10	<p>Monitoring</p> <p>Where any monitoring is required by this authority, all measurements of the quality/quantity of contaminants released must be performed by a person or body possessing appropriate experience or qualifications to perform the required measurements.</p>
A11	<p>Equipment calibration</p> <p>All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this authority must be calibrated, and appropriately operated and maintained.</p>
A12	<p>Records</p> <p>Record, compile and keep all monitoring results required by this authority and present this information to the administering authority when requested.</p>
A13	Unless otherwise stated all records required by this authority must be kept for five (5) years.
A14	<p>Third Party Environmental Auditing</p> <p>Compliance with the conditions of this authority and any management plans required by this authority must be audited every three (3) years by a Third Party Auditor, nominated by the environmental authority holder and accepted by the administering authority.</p>
A15	In relation to the audit required by Condition (A14), the final version of the Auditor's report must be submitted to the administering authority within 30 days of completing the audit, and accompanied with a statutory declaration, stating that the report accurately represents the findings of the Third Party Auditor .
A16	<p>Annual Monitoring Report</p> <p>An annual monitoring report must be prepared each year and submitted to the administering authority with each annual return. The report shall include but not be limited to:</p>

	<p>(a) details of the monitoring undertaken, including details of the sampling framework applied;</p> <p>(b) details of the analysis undertaken, and quality assurance and quality control measures applied;</p> <p>(c) a summary of the monitoring results obtained. Results must be presented in numerical and graphical form, showing relevant limits, and a comparison made with the previous twelve (12) months monitoring data;</p> <p>(d) an interpretation, evaluation and explanation of the monitoring results and programs;</p> <p style="padding-left: 40px;">i. in relation to air emissions, this section of the report must be prepared by a specialist in the field of air quality monitoring and assessment with determinations made as to any impacts on the environment and if so the level of environmental harm caused;</p> <p style="padding-left: 40px;">ii. in relation to surface waters and groundwaters, this section of the report must be prepared by a specialist in the field of water quality monitoring and assessment with determinations made as to any impacts on the environment and if so the level of environmental harm caused;</p> <p>(e) a summary of any record of quantities of releases required to be kept under this authority;</p> <p>(f) a summary of any record of equipment failures or events for any site under this authority; and</p> <p>(g) an outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs.</p>
A17	<p>Instrument availability</p> <p>All continuous monitoring required in Schedule 2, Table 2 must have an instrument availability of at least 80%.</p>
A18	<p>Third-party scrap aluminium</p> <p>Third-party scrap aluminium may be processed to a maximum of 6,000 tonnes per annum, provided that:</p> <p>a) All reasonable actions are taken to ensure the material is free of contaminants; and</p> <p>b) Records are maintained for the quantity of third-party scrap aluminium reprocessed on-site.</p>
Agency interest: Air	
Condition number	Condition
B1	<p>The release of noxious or offensive odours resulting from the activity must not cause a nuisance at any nuisance sensitive place.</p>
B2	<p>Dust nuisance</p> <p>The release of dust and/or particulate matter resulting from the activities must not cause an environmental nuisance at any nuisance sensitive place.</p>

B3	<p>Monitoring of contaminant releases to the atmosphere</p> <p>The release of contaminants to the atmosphere from a point source must only occur from 'dust collectors' and those release points identified in Schedule 3, Table 4 - <i>Contaminant Release Points to Air</i>, and must be directed vertically upwards without any impedance or hindrance, with the exception of Line 3 Bath Mill (A83 & A84) and any dust collector where a rain cowling is in place to prevent moisture ingress.</p>
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B4	<p>Monitoring of any releases to the atmosphere required by a condition of this authority must be carried out in accordance with the following requirements:</p> <ul style="list-style-type: none"> (a) monitoring provisions for the release points listed in Schedule 3, Table 4- <i>Contaminant Release Points to Air</i>, must comply with the Australian Standard AS 4323.1 – 1995 '<i>Stationary source emissions Method 1: Selection of sampling positions</i>' (or more recent editions) or another relevant method as approved by the administering authority; (b) all determinations must be made by a person or body registered by the NATA or by a person or body possessing appropriate experience and qualifications to perform the required determinations; (c) the following tests must be performed for each required determination specified in Schedule 3, Table 4 - <i>Contaminant Release Points to Air</i>: <ul style="list-style-type: none"> i. gas velocity and volume flow rate; ii. temperature; and iii. water vapour concentration (moisture content). (d) where practicable, samples must be taken when emissions are expected to be at rates representative of monthly operations. (e) during the sampling period the following additional information must be gathered: <ul style="list-style-type: none"> i. production rate at the time of sampling; ii. raw materials used; iii. number of equipment and mixing vessels operating; iv. operating or mixing temperature; v. product made; and vi. reference to the test methods and accuracy of the methods.
B5	Flow velocities through all roof louvre vents (A1 to A5) are to be determined by methodologies approved by the administering authority .
B6	The holder must conduct a monitoring program of contaminant releases to the atmosphere at the release points, frequency and for the parameters specified in Schedule 2, Table 1 - <i>Air quality monitoring requirements</i> .
B7	Contaminants released to the atmosphere, including releases during shutdown events, must not exceed the release limits listed in conditions (B9), (B10), (B11), (B12) or (B13). Releases during shutdown events must include fugitive emissions from all relevant upstream sources.
B8	When requested, monthly stack and roof emission monitoring results shall be forwarded to the administering authority within 30 days of the end of each month. This data must be presented as a time series that shows the level of emission and the trend for the previous 12 months.
B9	The sum of the discharges of fluoride from release points A1 to A11, A13 and A86 to A89, including additional emissions during shutdowns must not exceed 0.8kg/tonne of aluminium produced as a 12 month rolling average , using the previous 12 months data and determined

	monthly.
B10	The sum of the fluoride discharges from the release points A1 to A11, A13 and A86 to A89, including additional emissions during shutdowns must not exceed 1350kg/day as a 12 month rolling average , using the previous 12 months data and determined monthly.
B11	The sum of the total particulate discharged from the release points A1 to A11, A13 and A86 to A89, including additional emissions during shutdowns , must not exceed 4500kg/day as a 12 month rolling average , using the previous 12 months data and determined monthly.
B12	The sum of the sulphur dioxide discharged from the site must not exceed 40 000 kg/day as a 12 month rolling average , using the previous 12 months data and calculated monthly.
B13	The sum of the polycyclic aromatic hydrocarbons (PAH) discharged from release points A13 and A86 to A89, including additional emissions during shutdowns , must not exceed 50kg/year as a 12 month rolling average , using the previous 12 months data and determined monthly.
B14	<p>Monitoring of the receiving environment (air)</p> <p>Monitoring of the receiving environment must be undertaken consistent with the following.</p> <ul style="list-style-type: none"> (a) an ambient monitoring program must be developed in consultation with the administering authority and then implemented; (b) gaseous and acid soluble particulate fluoride shall be monitored at not less than four sites that are representative of the receiving environment; (c) the concentration of foliar fluoride shall be measured at not less than 15 sites which are located to provide a representative sample of the receiving environment; and (d) The EA holder must incorporate the analysis of Gladstone Airshed Monitoring Network ambient sulphur dioxide data from relevant monitoring stations into the annual monitoring report.
B15	<p>Pitch fume treatment</p> <p>All contaminants leaving the green carbon stack (release point A19), wharf liquid pitch facility stack (release point A20) and carbon pitch day tanks fume treatment centre (release point A52) must be previously treated in a fume treatment centre designed to reduce the concentration of pitch fume in the gas emitted.</p>
B16	<p>Preventative maintenance</p> <p>The holder shall maintain a current inventory of design data and maintenance requirements, including maintenance history for all air pollution control devices operated at the site.</p>
B17	Where monitoring of air pollution control equipment indicates impaired operational performance, standby systems are to operate or corrective measures must be undertaken. If standby systems cannot be operate or corrective measures cannot be undertaken, the plant(s) serviced by the air pollution control systems must be safely shut down as soon as practicable, unless otherwise agreed by the administering authority .

B18	<p>When a planned shutdown of any of the fume or fluoride treatment centres is required, prior authority must be obtained from the administering authority unless the following conditions are met.</p> <ul style="list-style-type: none"> (a) the fans venting the gases continue to operate as would otherwise be required; (b) the wind direction originates from 45 degrees to 160 degrees; (c) the wind velocity is at least 2 metres per second (3.9 knots); and (d) Bureau of Meteorology 24-hour forecast or other approved forecast advises that conditions (b) and (c) are likely to persist for the duration of the shutdown.
B19	<p>Dust control – trafficable and plant areas</p> <p>Trafficable and plant areas must be maintained, at all times, in a condition that minimises the release of wind-blown or traffic generated dust.</p>
B20	<p>Dust control – material stockpiles</p> <p>Measures must be installed and operated on material stockpiles as necessary to minimise the release of dust and particulate matter to the atmosphere.</p>
B21	<p>Fuel burning</p> <p>The fuels that may be burned in the furnaces are natural gas, LP gas, ring-main cleanings or electrostatic precipitator tars.</p>
B22	<p>National Pollution Inventory (NPI)</p> <p>In the preparation of the annual return required for the National Pollutant Inventory, the holder shall use the emission estimation techniques that are based upon findings listed in the <i>Boyne Smelters Limited Environmental Emissions Report</i>, dated September 2009 or more recent report acceptable to the administering authority.</p>
B23	<p>The environmental authority holder is required to update the monitoring program as required in Condition B6, in consultation with the administering authority prior to any change or alteration to processes or equipment that has the potential to significantly increase the risk of causing environmental harm.</p>
B24	<p>Weather Monitoring Program</p> <p>A weather monitoring station is to continuously measure and record the following meteorological parameters.</p> <ul style="list-style-type: none"> (a) air temperature and solar radiation; (b) relative humidity; (c) wind direction; (d) wind speed; and (e) rainfall.
B25	<p>The sum of the cyanide discharged from release point A16 must not exceed 5kg/day.</p>

B26	The sum of the ammonia discharged from release point A17 must not exceed 90kg/day.
Agency interest: Water	
Condition number	Condition
C1	Stormwater management There must be no release of stormwater that has been in contact with any contaminants at the site to any waters, other than in accordance with the conditions of this authority.
C2	The holder shall implement a Stormwater Management Plan with the objective of avoidance and minimisation of contaminated stormwater.
C3	Contaminated water must not be directly or indirectly released from any source on the licensed place to any waters at any location other than as listed below: (a) Release Point W1 - Settling pond discharge from smelter site to a channel known as Spillway Creek (Lat/Long: 23° 55' 32" S, 151° 19' 56" E) (b) Release Point W2 – Discharge from the maintenance area serving the Wharf facilities (Lat/Long: 23° 51' 31" S, 151° 19' 46" E)
C4	Erosion protection measures and sediment control measures must be implemented and maintained to minimise: (a) erosion of soils in areas disturbed by the activity; and (b) the release of sediment to any waters.
C5	Monitoring of contaminant releases to waters A monitoring program of releases to waters must be conducted at the release points, frequency and for the parameters specified in Schedule 2, Table 2 – <i>Water quality monitoring requirements</i> .
C6	Quality characteristics of releases to waters The release of contaminants to waters from release points W1 and W2 must comply with each of the limits specified in Schedule 3, Table 5 – <i>Contaminant Release Limits to Waters</i> for each quality characteristic.
C7	Monitoring of volume of release The daily volume of waters released at Release Point W1 must be determined by a method accurate to plus or minus 10%.
C8	Water quality monitoring conducted in accordance with this environmental authority must comply with the following requirements. (a) all determinations of the quality of contaminants released to waters must be made in accordance with, but are not limited to, methods prescribed in the latest edition of the administering authorities <i>Monitoring and Sampling Manual</i> ; and

	(b) carried out on samples that are representative of the discharge.
C9	Long term aquatic monitoring of relevant contaminants in the receiving environment as per requirements established through the Port Curtis Integrated Monitoring Program (PCIMP) or similar program with results made available to the administering authority upon request.
C10	Groundwater The release of contaminants to groundwater is prohibited.
C11	Monitoring of groundwater quality Bores must be maintained for the purpose of sampling and analysing groundwater. The groundwater monitoring program will include at least 12 bores from WDM21, WDM22, WDM23, WDMB24, WDMB30, WDMB31, WDMB47, WDMB48, WDMB49, WDMB50, MB1, MB2, MB5, SMB2, SMB3, SMB29, SMB30 and SMB31. The locations of groundwater bores are shown in Schedule 1, Map 2.
C12	A groundwater monitoring program must be performed which complies with the following requirements: (a) samples of groundwater must be taken from each bore at least twice per year. (b) the samples obtained in accordance with paragraph (a) of this condition must be analysed for the parameters listed in Schedule 2, Table 3.
C13	Records must be kept of the results of all determinations of the quality of groundwater for a period of at least 15 years and be made available to the administering authority upon request. Results must be presented in graphic form clearly showing variation of analyte concentration for each bore over time and median background concentrations. These records may be electronic.
C14	If the groundwater monitoring required by Condition (C12) indicates contamination by an analyte of more than 3 standard deviations above median background concentrations, the administering authority must be notified as soon as practicable and an investigation conducted into: (a) the cause of the exceedance; (b) the potential for environmental harm; (c) provide the monitoring results; (d) interpretation of analyses of any samples taken; (e) proposed actions to prevent or minimise environmental harm; (f) submit the investigation, and (g) report to the administering authority within three (3) months of receiving monitoring results.
C15	When not being sampled, monitoring bores shall be sealed with a locked cap.

Agency interest: Noise

Condition number	Condition
D1	The emission of noise from the licensed place must not result in levels greater than those specified in Schedule 3, Table 6 at any nuisance sensitive place .
D2	Noise monitoring When requested by the administering authority , monitoring must be undertaken to investigate any complaint of noise nuisance that the administering authority does not consider frivolous or vexatious.
D3	For the purposes of checking compliance with condition (D1) of the Noise Schedule, monitoring and recording of the noise levels from activities on site must be undertaken for the following descriptors, characteristics and conditions: (a) L_{Amax,adj,15mins}, L_{Amax} ; (b) the level and frequency of occurrence of impulsive or tonal noise; (c) atmospheric conditions including temperature, relative humidity and wind speed and direction; (d) effects due to extraneous factors such as traffic noise; and (e) measured at community locations, N1, N3, N5, K4 and N18 .
D4	The method of measurement and reporting of noise levels must comply with the latest edition of the administering authority's Noise Measurement Manual.
D5	Measurement and reporting of noise levels must be undertaken by a person or body possessing appropriate experience and qualifications to perform the required measurements.
Agency interest: Waste	
Condition number	Condition
E1	Closure and post-closure care At the cessation of waste deposition to the onsite landfill , a final cover system to the landfill unit must be installed by 31 July 2014 to prevent: (a) uncontrolled release of dust from the landfill; (b) infiltration of water into the landfill unit; (c) uncontrolled release of landfill gases; and (d) the likelihood of any erosion occurring to either the final cover system or landfilled materials.
E2	Post-closure care of the landfill unit must be conducted following deposition of waste in the landfill unit, for: (a) a period of 30 years; or

	(b) a shorter period until the landfill unit and surrounding site are geotechnically stable and that no release of waste materials, leachate, landfill gas or other contaminants to the environment is demonstrated to the satisfaction of the administering authority .
E3	A management plan pursuant to Chapter 7, Part 8, Division 5 of the Act must be developed and provided to the administering authority at least 12 months before the expected final receipt of waste in the landfill unit.
E4	<p>Investigation into alternative waste management practices</p> <p>For the purpose of minimising the disposal of recyclable waste to landfill, in accordance with the waste management hierarchy and principles of the Environmental Protection (Waste Management) Policy 2000, the holder must implement a Waste Management Plan that addresses at least the following matters:</p> <ul style="list-style-type: none"> (a) waste management practices that will ensure that recyclables are diverted from landfill; (b) procedures for identifying and implementing opportunities to improve the waste management practices employed including information and education packages for waste generators to assist in maximising the diversion of recyclable materials from landfill; (c) details of any accredited management system employed, or planned to be employed, to implement the waste management practices; (d) training programs and guidance for waste transport contractors in the identification and source separation of recyclable materials; (e) procedures for auditing waste loads to identify material to be removed for recycling; (f) how often the performance of the waste management practices will be assessed, at least annually; (g) the indicators or other criteria, taking into account economic, social and environmental factors on which the performance of the waste management practices will be assessed; (h) the recovery of energy from any methane collected in a landfill gas collection system; and (i) annual reporting any new measures adopted or materials newly diverted from landfill disposal.
E5	<p>On-site waste storage and processing</p> <p>All regulated wastes shall be stored or processed on site at the locations and according to the Waste Management Plan, unless it is in conflict with the conditions of this authority. In such circumstances the conditions of this authority take precedence.</p>
E6	<p>Waste handling</p> <p>All regulated waste removed from the site must be removed by a person who holds a current authority/approval to transport such waste under the provisions of the Act.</p>
E7	<p>Off-site movement</p> <p>Where regulated waste, other than Kiln Grade Spar (KGS) for approved usage, is removed from the licensed place, other than by a release as permitted under another condition of this</p>

	<p>environmental authority, the following monitoring and records must be kept:</p> <ul style="list-style-type: none"> (a) date of pickup of waste; (b) description of waste; (c) cross reference to relevant waste transport documentation; (d) quantity of waste; (e) origin of the waste; (f) destination of the waste; and (g) intended fate of the waste, for example, type of waste treatment, reprocessing or disposal. <p><i>NOTE: Records of documents maintained in compliance with a waste tracking system established under the Act or any other law for regulated waste will be deemed to satisfy this condition.</i></p>
E8	<p>Where KGS is removed from the site for approved usage, monitoring and records must be maintained for the following:</p> <ul style="list-style-type: none"> (a) the date and quantity of KGS removed from the licensed place; (b) the name and location where KGS is temporarily stored; and (c) the quantity and location where KGS is placed for approved usage in road-base.
E9	<p>For the on-site storage of KGS in landfills, the licensee shall implement a KGS Landfill Management Plan.</p>
E10	<p>Regulated waste must not be sent for disposal at any facility without the written approval of the person operating that facility.</p>
Agency interest: Reporting	
Condition number	Condition
F1	<p>Complaint response</p> <p>Details for all complaints received must be recorded and provide to the administering authority on request consistent with the following:</p> <ul style="list-style-type: none"> (a) time, date, name and contact details of the complainant; (b) reasons for the complaint; (c) any investigations undertaken; (d) conclusions formed; and (e) any actions taken.
F2	<p>Notifications of emergencies and incidents</p> <p>The administering authority must be notified as soon as practicable, but within twenty-four (24) hours of becoming aware of any emergency, incident or event which:</p>

	<p>(a) results in the release of contaminants not in accordance with, or reasonably expected to be not in accordance with the conditions of this environmental authority; and</p> <p>(b) has caused or has the potential to cause material or serious environmental harm.</p>
<p>F3</p>	<p>Reportable incidents</p> <p>All other releases of contaminants not in accordance or reasonably expected not to be in accordance with the conditions of this environmental authority must be reported to the administering authority in accordance with (F4).</p>
<p>F4</p>	<p>Monthly compliance report</p> <p>A monthly compliance report outlining the following must be submitted to the administering authority within twenty (20) business days of the end of each month:</p> <ul style="list-style-type: none"> (a) The date and time of initial notification reported to the administering authority as required by condition F2. (b) Written advice regarding releases of contaminants not in accordance or reasonably expected not to be in accordance with the conditions of this environmental authority. (c) Information as required by condition (F1) on a complaint in relation to, or reasonably expected to be in relation to an activity authorised by this environmental authority in the month. (d) Written advice detailing the below information regarding any notifications in accordance with condition F2: <ul style="list-style-type: none"> a. The name of the operator, including their approval/authority number; b. The name and telephone number of a designated contact person; c. The quantity and substance released; d. The location of the release/event; e. The time and date of the release/event; f. The time the holder became aware of the release/event; g. The suspected cause of the release/event; h. A description of the resulting effects of the release/event; i. The result of any sampling performed in relation to the release/event; j. Actions taken to mitigate any environmental harm (including environmental nuisance) caused by the release/event; and k. Proposed actions to prevent reoccurrence of the release event.

Definitions

Key terms and/or phrases used in this document are defined in this section and bolded throughout this document. Where a term is not defined, the definition in the Act, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

"**Act**" means the *Environmental Protection Act 1994*.

"**administering authority**" means the Department of Environment and Heritage Protection or its successor.

"**approved usage**" for KGS refers to the following :-

- a) addition of KGS to road-base in concentrations of up to and including 6%
- b) addition of KGS to explosives in concentrations of up to and including 10%
- c) such other uses as may be approved in writing by the administering authority

"**composite sample**" means a sample comprising representative daily grab sample combined with other representative daily grab samples of equal volume to form a maximum seven (7) day composite.

"**dust collector**" means a device used for filtering particulate from the air which is otherwise free from fume or gaseous contaminants or which is included in the Schedule 3 – Release points Table 4 – Contaminant Release Points to Air.

"**environment**" has the meaning described in section 8 of the Act.

"**environmental nuisance**" means unreasonable interference or likely interference with an environmental value caused by—

- (a) aerosols, fumes, light, noise, odour, particles or smoke; or
- (b) an unhealthy, offensive or unsightly condition because of contamination; or
- (c) another way prescribed by regulation.

"**fluoride treatment centre**" means a facility used to reduce the concentration of fluoride contained in that fume prior to release of that fume to the atmosphere. The fluoride removed by this facility is recycled to the smelting process. Each of release points A6 to A11 service a separate fluoride treatment centre. Each fluoride treatment centre serving the reduction lines is connected by ductwork to a discrete set of electrolytic cells.

"**fume treatment centre**" means a device used for treatment of fume in order to reduce the concentration of polycyclic aromatic hydrocarbons contained in that fume prior to release of that fume to the atmosphere. These devices are an afterburner at release point A20 and fume scrubbers at release points A13, A19, A52 and A86.

"**holder**" means any person who is the owner of, or is acting under, this environmental authority.

"**K4**" means 4 Kindalin Ct, Boyne Island, (23°56'14" S, 151°21'07" E)

"**KGS**" means Kiln Grade Spar, the product derived from treatment of Spent Cell Lining using the COMTOR process.

"**L_(Amax adj, 15 mins)**" means the average maximum A-weighted sound pressure level; adjusted for noise character and measured over a time period of 15 minutes, using Fast response.

"**L_{Amax}**" means the instantaneous maximum A-weighted sound pressure level; using Fast response.

"**maximum**" means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.

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

"**minimum**" means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.

"**NATA**" means the National Association of Testing Authorities, Australia.

"**nuisance 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; or
- a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

NOTE: The Queensland Alumina Limited Red Mud Dam is not a nuisance sensitive place for the purposes of this environmental authority.

"**N1**" means Benowa Ct, Boyne Island, (23° 56' 08" S, 151° 20' 57" E).

"**N3**" means Katandra St, Boyne Island, (23° 56' 17" S, 151° 20' 53" E).

"**N5**" means Turtle Way bicycle track, (at power pole 186834) Boyne Island, (23 ° 56' 09" S, 151 ° 21' 08" E)

"**N18**" means Davina St, Boyne Island, next to power pole 180334, (23 ° 56' 43" S, 151 ° 20' 07" E)

"**range**" means that the measured value of the quality characteristic or contaminant must be less than the higher release limit stated and greater than the lower release limit stated.

"**smelter site**" means the land described as Lot 1 on Plan RP613635, Lot 4 on SP144771, Lot 69 on CN1850 and Lot 43 on CTN1737.

"**shutdown**" refers to any circumstance where a treatment centre or any part of a treatment centre is not operating for a period of time longer than 15 minutes.

"**specialist in the field**" means a person or body possessing appropriate experience or qualifications to perform the required measurements and subsequent assessment of trends, validity of data, etc.

"**Third Party Auditor**" means a suitably qualified person in the field of environmental auditing that is to be engaged by the holder, and agreed with the administering authority, for the purposes set out in Conditions A6, A14 and A15.

"**WAD cyanide**" means Weak Acid Dissociable cyanide.

"**12 month rolling average**" means the average sampling data obtained over 12 months, calculated every month and moving forward one month every month.

Schedules**Schedule 1 – Approved plans**

Plan 1 - Drawing No 50-M-03066 Rev2 Site Plan

Map 1 - ERA Locations by Lot

Map 2 - Groundwater bore locations

Schedule 2—Monitoring

Table 1 – Air quality monitoring requirements

Table 2 – Water quality monitoring requirements

Table 3 - Groundwater monitoring requirements

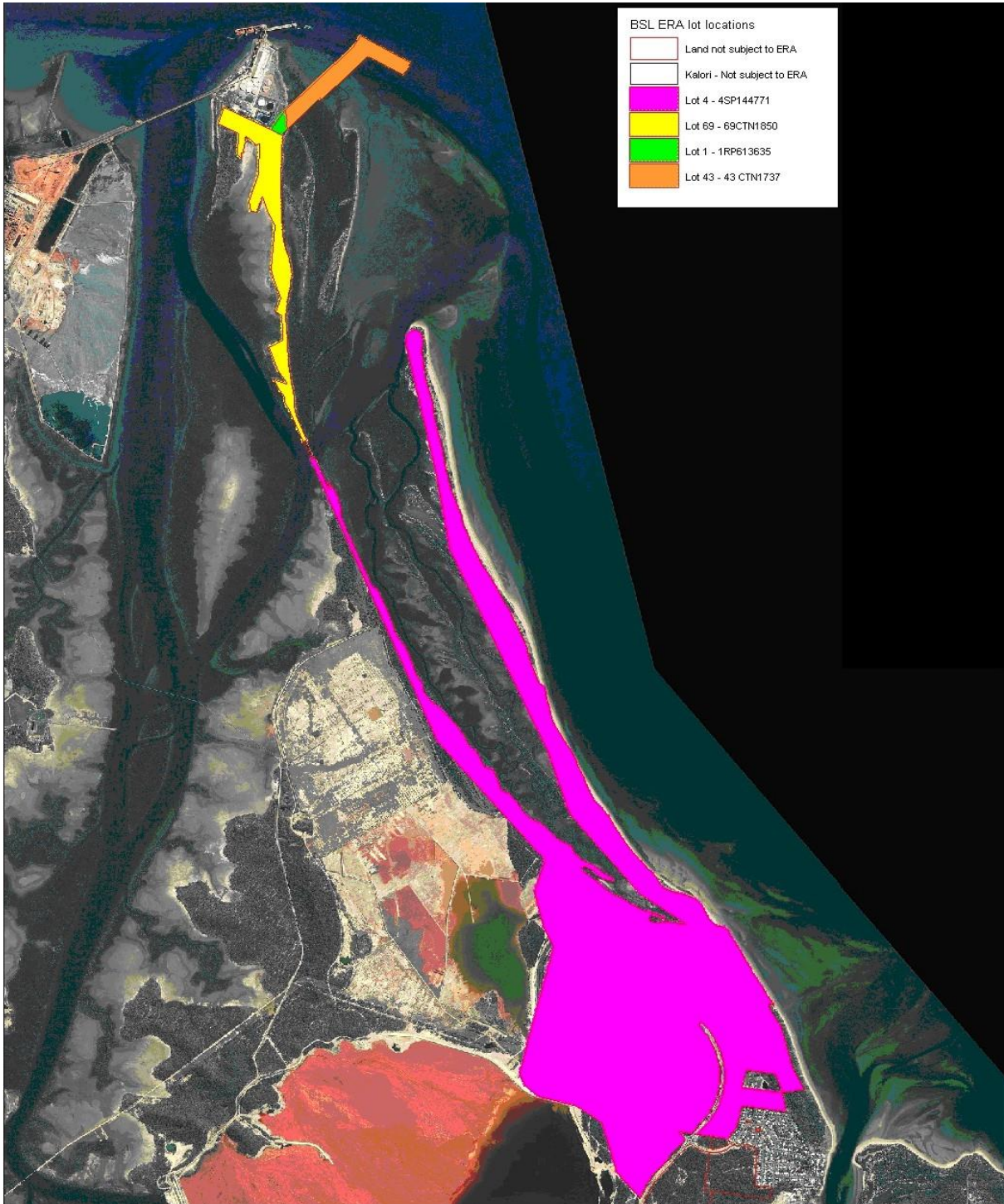
Schedule 3—Release points and limits

Table 4 - Contaminant Release Points to Air

Table 5 – Contaminant Release Limits to Waters

Table 6 – Noise Limits

Map 1 - ERA Locations by Lot



Permit
Environmental authority

Lot_on_Plan	Owner	Domain	Area_Ha	Street_Address	Tenure	ERA
4 SP144771	BSL-1		495.5964	400 Handley Dr	FH	7-(6a), 8-(1), 8-(3), 8-(4), 15, 29-(3d), 30-(1d), 31-(2b), 50-(2), 54-(2c), 54-(3c), 54(4c), 55-(1c), 55-(2c), 55-(3c), 60-(1a), 61-(2c), 61-(3c), 62-(1b), 62-(1c) and 62-(1d)
69 CTN1850	BSL-1		35.081		FH	7-(6a), 8-(1), 8-(3), 8-(4), 15, 29-(3d), 30-(1d), 31-(2b), 50-(2), 60-(1a), 62-(1b), 62-(1c) and 62-(1d)
1 RP613635	BSL-1		1.437		FH	7-(6a), 8-(1), 8-(3), 8-(4), 15, 29-(3d), 50-(2), 30-(1d), 31-(2b), 60-(1a), 62-(1b), 62-(1c) and 62-(1d)
43 CTN1737	BSL-1		16.2		LL	7-(6a), 8-(1), 8-(3), 8-(4), 15, 29-(3d), 50-(2), 30-(1d), 31-(2b), 60-(1a), 62-(1b), 62-(1c) and 62-(1d)

Map 2 - Groundwater bore locations



BSL License Groundwater Monitoring Bores

Schedule 2—Monitoring

Table 1 – Air Quality monitoring requirements

Contaminant	Release Point Number	Sampling Frequency
Total Fluoride	A1 to A11	Monthly
Total Fluoride	A13 and A86, A89	Quarterly
Total Particulate	A1 to A11	Monthly
Total Particulate	A13 and A86, A89	Quarterly
Cyanide	A16	Yearly
Poly Aromatic Hydrocarbons (PAH)	A13 and A86	Quarterly
Ammonia	A17*	Yearly

*A sample from A17 is only required if the calcine treatment plant operates within the 12 month period.

*The release point A89 must be monitored at commissioning and quarterly thereafter for a period of 12 months in order to quantify actual source emissions. Should the risk of the release point A89 be assessed to be insignificant based on proven results, monitoring of the source will no longer be a requirement.

Table 2 – Water quality monitoring requirements

Quality Characteristic Determination	Frequency Release Point W1	Frequency Release Point W2
pH	continuous ²	2 per year during discharge
Dissolved Fluoride (as F)	1 per discharge ¹	n/a
WAD cyanide (as CN)	1 per fortnight during discharge	n/a
Dissolved Oxygen	continuous ²	n/a
Suspended Solids (mg/L)	1 per discharge ¹	2 per year during discharge
Oil and Grease	1 per discharge	2 per year during discharge
Dissolved Aluminium	4 per year during discharge	n/a
Total Chromium (mg/L)	1 per year during discharge	n/a
Total Copper (mg/L)	1 per year during discharge	n/a
Total Iron (mg/L)	1 per year during discharge	n/a
Total Lead (mg/L)	1 per year during discharge	n/a
Total Nickel (mg/L)	1 per year during discharge	n/a
Total Zinc (mg/L)	1 per year during discharge	n/a
Total Sodium (mg/L)	1 per year during discharge	n/a

1. Monitoring for the identified quality characteristics is an analysis of a **maximum** seven (7) day **composite sample**.
2. Monitoring data to be reported in the Annual Monitoring Report using a 24 hour averaging period.

Table 3 - Groundwater monitoring requirements

Quality Characteristic Determination
pH
Dissolved Fluoride (as F)
Total Cyanide (as CN)
Electrical Conductivity
Polycyclic Aromatic Hydrocarbons
Dissolved Aluminium (mg/L)
Total Chromium (mg/L)
Total Copper (mg/L)
Total Iron (mg/L)
Total Lead (mg/L)
Total Nickel (mg/L)
Total Zinc (mg/L)
Total Sodium (mg/L)

Schedule 3—Release points

Table 4 - Contaminant Release Points to Air

Release Point Number	Source Description	Minimum Release Height (m)
A1	Reduction Line 1 Roof Fugitive Emissions	22
A2	Reduction Line 2 Roof Fugitive Emissions	22
A3	Reduction Line 3 E Bay Roof Fugitive Emissions	20
A4	Reduction Line 3 F Bay Roof Fugitive Emissions	20
A5	Butt Cooling Building Roof Vents Fugitive Emissions	13
A6	Reduction Line 1 'A' Fluoride Treatment Centre	48
A7	Reduction Line 1 'B' Fluoride Treatment Centre	48
A8	Reduction Line 2 'A' Fluoride Treatment Centre	48
A9	Reduction Line 2 'B' Fluoride Treatment Centre	48
A10	Reduction Line 3 East Fluoride Treatment Centre	50
A11	Reduction Line 3 West Fluoride Treatment Centre	50
A13	Carbon Baking Furnace 3 Fume Treatment Centre	37
A14	Line 1&2 Rodding Room Cast Iron Furnace	13
A15	Line 3 Rodding Room Induction Furnace Dust Collector	5
A16	Spent Cell Lining Calciner 1&2 Hot Gas Bag House	35
A17	Spent Cell Lining Calcine Wet Treatment Plant	30
A19	Green Carbon Fume Treatment Centre	45
A20	Wharf Liquid Pitch Facility Fume Incinerator	20
A21	Metal Products Gas-Fired Furnace 1 Stack	31
A22	Metal Products Gas-Fired Furnace 6 Stack	31
A23	Metal Products Gas-Fired Furnace 7 Stack	31
A24	Metal Products Gas-Fired Furnace 8 Stack	31
A25	Metal Products Gas-Fired Furnace 9 Stack	31
A26	Metal Products Gas-Fired Furnace 10 Stack	31
A27	Metal Products Gas-Fired Furnace 11 Stack	31
A28	Metal Products Gas-Fired Furnace 12 Stack	31
A30	Metal Products Continuous Homogeniser 1 Stack	31
A31	Metal Products Continuous Homogeniser 2 Stack	31
A32	Metal Products Electric Holding Furnace 2 – Fugitive Emissions Collection Stack	22
A33	Metal Products Electric Holding Furnace 3 – Fugitive Emissions Collection Stack	22
A34	Metal Products Electric Holding Furnace 4 – Fugitive Emissions Collection Stack	22
A35	Metal Products Electric Holding Furnace 5 – Fugitive Emissions Collection Stack	22
A36	Re-Melt Metal Drying Oven	31
A39	Metal Reclamation Plant – Dust Collector	18
A40	Siphon Heating Exhaust Stack	10

Release Point Number	Source Description	Minimum Release Height (m)
A43	Green Carbon Line 1&2 HTF Boiler Stack	22
A44	Green Carbon Line 3 HTF Boiler Stack	22
A45	Green Carbon Pitch Day Tank Emergency Relief Vent	8
A46	Crucible Cleaning Heaters 1,2,3,4 Fume Stack	15
A47	Crucible Cleaning Heater 5 Fume Stack	15
A48	Siphon Pipe Shed Pre-Heating Furnace Stack	10
A49	Crucible Cleaning Dust Collector	3
A51	Metal Products Furnaces 13 & 14	31
A52	Carbon Pitch Day Tanks Fume Treatment Centre	16
A53	Carbon Bake Furnace 3 Roof Fugitive Emissions	28
A54	Carbon Bake Furnace 3 Secondary Alumina Dust Collector	35
A55	Line 1&2 Rodding Room Anode Shot-Blaster Dust Collector	4
A56	Aluminium Spray Station Dust Collector	36
A57	Green Carbon (Integrated Paste Plant) Line 3 Mixed Aggregate Dust Collector	31
A58	Green Carbon (Integrated Paste Plant) Main De-Dusting Dust Collector	46
A59	Green Carbon (Integrated Paste Plant) Ball Mill Dust Collector	46
A60	Reduction Line 1&2 Tumble Mill Dust Collector	3
A61	Line 3 Rodding Room Bath Cleaning Dust Collector	5
A62	Line 3 Rodding Room Stripping Press Dust Collector	3
A63	Green Carbon Butt Thimble Press Butt Collector Dust Collector	4
A64	Green Scrap Dust Collector	45
A65	Green Carbon Crushing Circuit Dust Collector	3
A67	Rodding Room Line 3 - Anode Assembly Fume Extraction Dust Collector	4
A69	Rodding Room Line 3 Pre-Size Dust Collector	4
A70	Rodding Room Line 3 Load/Unload Station Dust Collector	4
A71	Rodding Room Line 3 Butt Blast Dust Collector	3
A72	Cathode Preparation Bar Cleaner Dust Collector	3
A76	Spent Cell Lining Grinding Circuit Exhaust Dust Collector	17
A77	Spent Cell Lining Wet Plant Dust Collector	27
A78	Reduction Line 1&2 POT Dig Out Dust Collector	5
A80	Reduction Line 1&2 Anode Pallet Station Dust Collector	4
A81	Rodding Room Line 1&2 Bath Cleaning Dust Collector	5
A82	Reduction Line 3 De-Line Dust Collector	20
A83	Reduction Line 3 Bath Plant (East) Dust Collector	49
A84	Reduction Line 3 Bath Plant Dust Collector	55
A85	Reduction Line 1&2 Bath Plant Dust Collector	2
A86	Carbon Bake Furnace 4 Fume Treatment Centre	45
A87	Carbon Bake Furnace 4 Emergency Draft Fan Stack	31

Release Point Number	Source Description	Minimum Release Height (m)
A88	Carbon Bake Furnace Roof Fugitive Emissions	26
A89	Treatment Of Aluminium In Crucible (TAC) Dust Collector	10

Table 5 – Contaminant Release Limits to Waters

Quality Characteristics	Discharge Limit	Limit Type	Release Point
Suspended Solids (mg/L)	50	maximum	W1, W2
pH (pH Units)	6.5-9.0	range	W1
Oil and Grease (mg/L)	10	maximum	W1, W2
Dissolved Oxygen (mg/L)	2	minimum	W1
Dissolved Fluoride (as F) (mg/L)	30	maximum	W1
WAD cyanide (as CN) (mg/L)	0.5	maximum	W1

Table 6 – Noise Limits

Descriptor	Noise limits (maximum) at a noise sensitive place	Limit type
L _{Amax,adj,15minutes}	42 dB(A)	90% of 24 hour periods for the year
L _{Amax}	55 dB(A)	90% of 24 hour periods for the year

NOTE: The noises from evacuation alarms are not subject to the limits described in Schedule D, Table 1.

END OF AUTHORITY