Government of Western Australia
Department of Water and Environmental Regulation

# Licence

| | |
|---|---|
| **Licence number** | L8846/2014/1 |
| **Licence holder** | Phosphate Resources Ltd |
| **ACN** | 009 396 543 |
| **Registered business address** | 6 Thorogood Street<br>BURSWOOD WA 6100 |
| **DWER file number** | DER2014/002338-2 |
| **Duration** | 24 February 2012 to 23 February 2025 |
| **Date of issue** | 24 February 2012 |
| **Premises details** | Christmas Island Phosphates<br>Christmas Island<br>INDIAN OCEAN TERRITORIES WA 6798<br>Legal description -<br>Being Lot 47 and 48 on Plan 218106, Lot 51 on Plan 218108, Lot 53 on Plan 218110, Lot 197 on Plan 218134, Lot 482 and 488 on Plan 219653, Lot 554 on Plan 221294, Lot 622 on Plan 43303, Lot 637 on Plan 43304, Lot 3001 and 3002 on Plan 41813, and Lot 3022 on Plan 43297, as depicted in Figure 1, Schedule 1. |

| **Prescribed premises category description [Schedule 1, *Environmental Protection Regulations 1987 (WA)(CI)]*** | **Assessed design capacity** |
|---|---|
| Category 5: Processing or beneficiation of metallic or non-metallic ore: premises on which –<br>(a) Metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or<br>(b) Tailings from metallic or non-metallic ore are reprocessed; or<br>(c) Tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam. | 1 200 000 tonnes per annual period |
| Category 58: Bulk material loading or unloading: premises on which clinker, coal, ore, ore concentrate or any other bulk granular material (other than salt) is loaded onto or unloaded from vessels by an open materials loading system. | 1 200 000 tonnes per annual period<br>(<5000 tonnes/day) |

This licence is granted to the licence holder, subject to the attached conditions, on 12 June 2024, by:

Hayden Nebel Digitally signed by Hayden Nebel
Date: 2024.06.12 13:10:50 +08'00'

**SENIOR INDUSTRY REGULATION OFFICER**
**REGULATORY SERVICES**
an officer delegated under section 20 of the *Environmental Protection Act 1986 (WA)(CI)*

# Licence history

| Date | Reference number | Summary of changes |
|---|---|---|
| 2/12/2005 | L8099/2006/1 | New Licence Application |
| 4/03/2008 | L8099/2006/2 | Licence Reissue |
| 15/01/2015 | L8846/2014/1 | Licence Amendment to new format |
| 5/11/2015 | L8846/2014/1 | Licence amendment to change details on fuel used in dryers |
| 29/04/2016 | L8846/2014/1 | This notice was given in accordance with section 59B(9) of the *Environmental Protection Act 1986* to the new expiry date of the licence. |
| 23/09/2016 | L8846/2014/1 | Licence amendment for inclusion of Incinerator conditions |
| 30/01/2018 | L8846/2014/1 | Amendment Notice 1– Amendments to the Licence as a result of an Inspection undertaken in August 2017. |
| 6/11/2023 | L8846/2014/1 | Occupier initiated amendment following the outcomes of an operational review of the licence to ensure that the licence reflects the current operations of the premises.<br>DWER initiated licence amendment included to; amalgamate issued amendment notice 1 into the licence, update format, and remove redundant conditions. During this amalgamation of amendment notice no additional risk assessment of the premises was undertaken by DWER. |
| 12/06/2024 | L8846/2014/1 | DWER initiated licence amendment for the requirement to develop a new ambient air quality monitoring program. |

# Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this licence:

(i) if dated, refers to that particular version; and

(ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

# Licence conditions

The licence holder must ensure that the following conditions are complied with:

## Infrastructure and equipment

**1.** The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

**Table 1: Infrastructure and equipment requirements**

| | Site infrastructure and equipment | Operational requirement | Infrastructure location |
|---|---|---|---|
| 1. | Laboratory | a) Waste output from all testing and analysis of phosphate product grade is to be treated prior to disposal.<br>b) Emissions of wastewater from the laboratory must comply with Conditions 18 and 19. | As per Figure 4 in Schedule 1 of this licence |
| **Run of Mine Stockpile Area/Mining Equipment Stand Down Area (ROM/MLI34)** | | | |
| 2. | Feeders<br>Conveyors<br>Crushers<br>Dump hopper<br>Switch room | a) All infrastructure and equipment must be operated and maintained in good working order and as per design/manufacturer specifications. | As per Figure 2 and Figure 3 in Schedule 1 of this licence |
| **Incinerator** | | | |
| 3. | Incinerator<br>2 x 20 ft sea containers (one for housing incinerator and one for fuel storage)<br>Waste for incineration storage area<br>Wash down bays<br>Sump<br>Oil/water separators<br>Incinerator stack | a) All infrastructure and equipment must be operated and maintained in good working order and as per design/manufacturer specifications.<br>b) Incinerator must be located within a 20 ft sea container on a concrete surface which is maintained in good condition, free of cracks and defects.<br>c) The sea container must be able to be locked to prevent unauthorised access.<br>d) Fire safety extinguishers must be available within the sea container housing the incinerator and accessible at all times.<br>e) The incinerator must be supplied with clean water to the solenoid valve at 3-5 bar pressure (40-70 psi)<br>f) The incinerator must achieve moderate (8 m/second) air velocity flow for appropriate particulate matter entrainment into the flue gas leaving the incinerator.<br>g) The incinerator must have a programmable logic control system for temperature control and load timer | As per Figures 6, 7 and 8 in Schedule 1 of this licence |

| | Site infrastructure and equipment | Operational requirement | Infrastructure location |
|---|---|---|---|
| | | status.<br>h) Waste to be incinerated must be stored in the designated undercover storage area on a bunded metal base.<br>i) The designated storage area must be maintained so that it is able to withstand a '1-in-20' year ARI rainfall event of 72 hours duration without liquid run on or run off.<br>j) The designated storage area for waste for incineration is to be kept ordered and marked according to waste type in Table 3, to ensure no mixing of wastes of different types occurs. | |
| **Dryers Precinct** | | | |
| 4. | 2 x Rotary kiln dryers<br>Cyclones<br>Baghouse<br>Dryer stack<br>Dryers control room<br>Dryer switch room<br>Conveyors<br>Excavators<br>Crushers<br>Wet feed bins<br>Wood screen<br>Makan Hut<br>Rock silos and dust silos | a) All infrastructure and equipment must be operated and maintained in good working order and as per design/manufacturer specifications.<br>b) Any diesel or recycled oils used in the operation of the rotary dryers must contain a maximum sulphur content of less than or equal to 3% m/m.<br>c) All pressure monitors within the baghouse are always maintained and operational. | As per Figure 2 and Figure 3 in Schedule 1 of this licence |
| **Cross Country Conveyors (PS10/C1-05) from dryers to Downhill Silos** | | | |
| 5. | Cross country conveyors<br>Control room<br>Transfer sub-stations<br>Rock silos and dust silos | a) All infrastructure and equipment must be operated and maintained in good working order and as per design/manufacturer specifications. | As per Figure 2 and Figure 4 of Schedule 1 of this licence |
| **Downhill Conveyors (D8-D13) from top of incline to Ship Loading Precinct** | | | |
| 6. | Conveyors D8-D13<br>Air slides<br>Aeration blowers<br>Bagging machine<br>Switch rooms<br>Dust filters | a) All infrastructure and equipment must be operated and maintained in good working order and as per design/manufacturer specifications. | As per Figure 2 and Figure 4 of Schedule 1of this licence |
| **Wharf/Ship Loading Precinct (loading and dust bagging area)** | | | |
| 7. | Rock shed<br>Rock Storage Bin<br>Bagging dust silos | a) All infrastructure and equipment must be operated and maintained in good working order and as per design/manufacturer specifications. | As per Figure 2, Figure 4, and Figure 5 of Schedule 1 of |

| | Site infrastructure and equipment | Operational requirement | Infrastructure location |
|---|---|---|---|
| | Conveyors<br>Sampler<br>Sample plant<br>Crusher<br>Ship-loaders<br>Northern Drive Assembly Cantilever Slew<br>Southern Drive Assembly Cantilever Slew<br>Control room<br>Choke feeder<br>North Arm (Cantilever)<br>South Arm (Cantilever) | b) Conveyors must be enclosed.<br>c) Rock bin must be used for the storage of phosphate rock product.<br>d) Rock bin has a maximum storage capacity of 75,000 metric tonnes.<br>e) Phosphate dust product must be stored in bagging dust silos (up to 2,000 metric tonnes per silo). | this licence |
| 8. | Weather station | a) To be operated and maintained in accordance with AS 3580.14. | Wharf Precinct within the prescribed premises boundary shown in Schedule 1 |
| 9. | Portable dust monitors | a) Operated and maintained in accordance with AS 2923-1987. | As per Figure 6, Schedule 1 |

**2.** The Licence Holder shall operate and maintain all bunds, concrete hard stands, oil/ water separators, sumps, stormwater culverts, gabions, and dams to design specifications.

**3.** The Licence Holder shall immediately recover, or remove and dispose of spills of hydrocarbons, hydrocarbon contaminated waste or processed phosphate product outside an engineered containment system.

**4.** The Licence Holder shall store fuel, oil, or other hydrocarbons within low permeability ($10^{-9}$ metres per second or less) compound(s) designed to contain not less than 110% of the volume of the largest storage vessel or inter-connected system, and at least 25% of the total volume of substances stored in the compound[1].

Note1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)(CI)* make it an offence to discharge certain materials into the environment.

## Premises Operation

**5.** The Licence Holder shall manage the operation to ensure that throughput at the premises does not exceed the limits in Table 2.

**Table 2: Throughput Limits**

| Process | Limit |
|---|---|
| Processing or beneficiation of metallic or non-metallic ore | 1,200,000 tonnes (ore) per annual period. |
| Bulk material loading or unloading | 1,200,000 tonnes per annual period. |
| Incineration (of hydrocarbons or, hydrocarbon contaminated waste) | maximum of 70% of the volume of the 1.7 $m^3$ furnace per batch. |

**6.** The Licence Holder shall:

(a) dispose of all non-hydrocarbon wastes generated or brought on site, excluding unusable process fines, to a licensed disposal facility;

(b) store any contaminated soils onsite within an impervious, bunded facility prior to disposal of the waste at a licensed facility or suitable disposal facility; and

(c) dispose of all unusable process fines back to the mine as backfill.

**7.** The Licence Holder shall only accept waste on to the Premises if:

(a) it is of a type listed in Table 3;

(b) the quantity accepted is below any quantity limit listed in Table 3;

(c) it meets any specification listed in Table 3; and

(d) in the case of contaminated solid waste is supported by documentation that demonstrates compliance with the acceptance criteria for Class II landfills.

**Table 3: Waste acceptance**

| | **Waste type** | **Quantity Limit** | **Specification**[1] |
|---|---|---|---|
| 1 | Light oily rags | 20 tonnes combined per annual period | (a) For final disposal to incinerator or licenced facility only. |
| 2 | Heavy oily rags | | |
| 3 | Oil/Fuel Filters | | (a) Filters must be drained, crushed, and bagged prior to acceptance.<br>(b) For final disposal to incinerator or licenced facility only. |
| 4 | Contaminated (oil) soil/spill absorbents | | (a) For final disposal to incinerator or licenced facility only. |
| 5 | Grease cartridges | | |
| 6 | Grease | | |
| 7 | Oily Sludge | | |
| 8 | Empty metal sample tins | | |
| 9 | Black plastic | | (a) Excludes polyvinyl chloride products.<br>(b) For final disposal to incinerator or licenced facility only. |
| 10 | Other oily wastes | | (a) Excludes mercury thermometers, solvents paint, chemicals, batteries, mobile phones, ink cartridges, tyres, computer and computer accessories, glass, aluminium cans, products containing Sulphur nitrogen, and toxic metals.<br>(b) For final disposal to incinerator or licenced facility only. |

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

**8.** The Licence Holder shall ensure that where waste does not meet the waste acceptance criteria set out in condition 7 it is removed from the Premises by the delivery vehicle or, where that is not possible, the Licence Holder shall contact the CEO to agree on a course of action in relation to the waste.

**9.** The Licence Holder must ensure that all hydrocarbon contaminated waste accepted at the premises for incineration is:

(a) bagged and segregated by its type specified in Table 3 to ensure no mixing of different types of wastes;

(b) stored within the designated covered, bunded storage area as specified in Table 1, prior to incineration;

(c) all waste must be stored in leak-proof containers with lids or in lidded waste bins; and

(d) waste must not be stored for longer than 7 days prior to incineration.

**10.** The Licence Holder shall ensure that wastes accepted onto the Premises are only subjected to the process(es) set out in Table 4 and in accordance with any process limits described in that Table.

**Table 4: Waste Processing**

| Waste type(s) | Process | Process limits[1] |
|---|---|---|
| All wastes for incineration | Handling and disposal of waste | • Shall only take place within the incinerator location as defined within Schedule 1: Maps;<br>• Incinerator to be housed within a lockable, enclosed metal structure placed on a concrete base;<br>• Ensure incinerator preheat temperature is no less than 1,000 °C in secondary chamber;<br>• Secondary combustion chamber temperature is to be no less than 980 °C when waste is incinerated;<br>• Stack temperature to be no less than 400+ °C during incineration;<br>• Minimum of two second residence time of gas;<br>• No incineration of putrescible wastes, radioactive wastes, mercury thermometers, solvents, chemicals, batteries, paint, mobile phones, ink cartridges, tyres, computers or computer accessories, glass, aluminium cans or polyvinyl chloride products or products containing sulphur, nitrogen or toxic metals to occur;<br>• Ensure incineration of waste is carried out in accordance with the manufacturer's specifications for waste type segregation and uniform waste feed;<br>• Minimum cool down period prior to ash removal is at least 3 hours; and<br>• Ensure that all residual waste ash generated from the incineration process is disposed of to a licenced facility able to dispose of the waste type generated. |

**11.** The Licence Holder shall undertake the management action specified in Table 5 in the case of an event listed in Table 5.

**Table 5: Management actions**

| Emission point | Event/ action reference | Event | Management action |
|---|---|---|---|
| Incinerator (As per Schedule 1: Maps) | EA1 | Failure or malfunction or abnormal operation period (including emission of black smoke) | 1. Shut down incinerator.<br>2. Restore normal operation of failed equipment or replace the failed equipment prior to re-introducing feed.<br>3. Assess temperature operation of chamber/s during failure, malfunction or abnormal operation period.<br>4. The Licence Holder must record the beginning and end of the Abnormal Operation period and any actions undertaken to rectify the issue. |
| | EA2 | Start up | 1. Must not load waste into the incinerator until preheat temperature of at least 1,000 °C is reached. |
| Wash down bays; oil/ water separators | EA3 | Failure or malfunction or abnormal operation period resulting in elevated hydrocarbon sampling | 1. Ensure no discharge of wastewater is released from wash down bays by locking outflow pipe in 'closed' position or transferring contained wastewater from the sump to an impermeable holding facility;<br>2. Assess and undertake maintenance or upgrades on the treatment process prior to reloading the system.<br>3. Transfer wastewater back through the system and re-sample to ensure parameter limits are being achieved.<br>4. Once parameter sampling limits are achieved, treated wastewater may be discharged from the wash down bay sump. |
| Hydrocarbon contaminated storm/waste water from bunded facilities | EA4 | Hydrocarbon contaminated stormwater or spills within bunded structures | 1. Remove all contaminated storm water held within bunds after each rainfall event and process them through an oil/ water separator (or similar) or recycling facility.<br>2. Apply absorbency material to contain and remove hydrocarbon spills when they occur and dispose of all contaminated materials appropriately. |

**12.** Following the cessation of emissions/operation under condition 11, the Licence Holder shall not restart operation of the process until:

(a) the problem has been rectified; and

(b) the Licence Holder has recorded the actions taken to maintain compliance with the Licence.

**13.** The Licence Holder must, prior to initiating burning of fuels with a sulphur content above 1.5% m/m in the rotary driers, develop and implement an Air Quality Monitoring and Investigation Programme for sulphur emissions from the dryer stack. The monitoring programme should be conducted over a six month period and include, but not limited to:

(a) Continuous monitoring of sulphur emissions from the A1 dryer stack;

(b) An assessment of the monitoring data against relevant standards;

(c) Recording and investigation of any odour complaints received and determination of their source;

(d) Investigation of the potential impacts, from the change in sulphur content, at the nearest sensitive receptor/s; and

(e) Commencement and completion dates for the monitoring programme.

**14.** The Licence Holder must within two months of commencing the burning of fuel with sulphur content above 1.5% m/m in the rotary dryers:

(a) Install a sulphur dioxide (SO2) probe (in accordance with Australian Standard AS/NZS 4323.1) within the A1 – dryer stack, for continuous monitoring purposes.

**15.** The Licence Holder must, within one month after the completion date of the air quality monitoring programme in condition 13, submit a report to the CEO on the outcomes of the Air Quality Monitoring and Investigation Programme with any corrective actions undertaken to mitigate/manage emissions, if required.

## Emissions and discharges

### General

**16.** The Licence Holder shall record and investigate the exceedance of any descriptive or numerical limit specified in conditions 17, 18, 19 and 20 of this Licence.

### Point source emissions to air

**17.** The Licence Holder shall ensure that where waste is emitted to air from the emission points in Table 6, and identified in Figure 6 in Schedule 1, it is done so in accordance with the conditions of this Licence.

**Table 6: Emission points to air**

| Emission point reference on Map of emission points | Emission Point (Source) | Emission point height (m) | Source, including any abatement |
|---|---|---|---|
| A1 - Dryer stack | Rotary dryer no. 5 (KLN5) | 36.2 | Kiln via Cyclone cluster dryer no. 5 (CY01 & 02) and Cyclone cluster dryer no. 6 (CY03 & 04) to the baghouses (DRIBH05 & DRIBH06). |
| | Rotary dryer no. 6 (KLN6) | | |
| A2 – Incinerator stack | Incinerator stack | 9.6 | Hot Hearth 'HSH 100' incinerator stack placed on the secondary chamber discharge point.<br><br>Incinerator with a minimum 2 second gas residence time in secondary chamber and incorporates a fully programmable logic control system for temperature control and load timer status. (continuous). |

### Emissions to land

**18.** The Licence Holder shall ensure that where waste is emitted to land from the emission points in Table 7 and identified on the map of emission points in Figures 6, 9 and 10 of Schedule 1, it is done so in accordance with the conditions of this Licence.

**Table 7: Emissions to land**

| Emission point reference | Emission point reference on Map of emission points | Description | Source including abatement |
|---|---|---|---|
| Outlet pipes from laboratory | L1/L4 | Wastewater generated from laboratory testing of product. | Wastewater from laboratory sinks sent through buffering/stabilising tank and testing completed prior to release to ground. |
| Outlet pipes from the workshops, wash down bay areas, storage areas and oil/ water separator. | L2/L3 | Pipes removing wastewater from operations and workshop areas. | Wastewater discharged via fuel/oil traps/ separators or silt traps. |

**19.** The Licence Holder shall not cause or allow emissions to land greater than the limits listed in Table 8.

**Table 8: Emission limits to land**

| Emission point reference | Parameter | Limit (including units) | Averaging period |
|---|---|---|---|
| Outlet pipes from the laboratory (L1) | pH[1] | 6.0-8.5 pH | Monthly |
| Outlet pipes from the workshops, wash down bays/ areas, oil/ water separators (L2) | Total Recoverable Hydrocarbons (TRH) | ≤ 10 ppm | Monthly |

Note 1: In-situ non-NATA monitoring permitted

### Fugitive emissions

**20.** The Licence Holder shall implement and adhere to the dust management strategies as defined within the Environmental Management Plan.

## Specified actions

**21.** The licence holder must complete;

(a) the action reference specified in Column 1,

(b) for the specific actions specified in Column 2, and

(c) by the date of completion in Column 3,

in Table 9.

**Table 9: Specified actions**

| Action | Specified action | Date of completion |
|---|---|---|
| 1 | The licence holder must engage the services of an air quality professional to design a new ambient air quality monitoring network. The ambient air quality monitoring network must be designed to facilitate dust management on the premises and to enable the assessment of potential human health impacts to nearby sensitive receptors from wharf operations. | 30 September 2024 |
| 2 | The licence holder shall prepare and submit to the CEO an Air Quality Monitoring Plan which includes:<br>a) identification of all major sources of dust emissions;<br>b) the details of any dust dispersion modelling undertaken to determine the location of ambient air quality monitoring equipment;<br>c) an overview of the proposed ambient air quality/dust monitoring network, including details on the type, number, and locations of all air quality monitoring equipment[1, 2];<br>d) a map/site plan showing the proposed location of the meteorological monitoring station, dust ($PM_{10}$) monitors, air quality monitors, and other associated air quality monitoring equipment.<br>e) protocols for the routine maintenance of monitoring equipment;<br>f) the development of $PM_{10}$ concentration trigger levels and alerts to facilitate management actions to prevent exceedance of the 24-hour $PM_{10}$ NEPM standard; and<br>g) the management actions proposed to be undertaken for exceedance of the trigger levels.<br>Note 1: All equipment must be appropriate for operation in a high humidity environment.<br>Note 2: The network must include at least two reference monitors. | |

## Monitoring

**22.** The Licence Holder must ensure that:

(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;

(b) all wastewater samples are collected in accordance with AS/NZS 5667.10; and

(c) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table;

**23.** The Licence Holder must ensure that:

(a) monthly monitoring is undertaken at least 15 days apart;

(b) quarterly monitoring is undertaken at least 45 days apart;

(c) six monthly monitoring is undertaken at least 5 months apart; and

(d) annual monitoring is undertaken at least 9 months apart.

**24.** The Licence Holder shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

**25.** The Licence Holder shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

## Monitoring of point source emissions to air

**26.** The Licence Holder shall undertake the monitoring in Table 10 according to the specifications in that table.

**Table 10: Monitoring of point source emissions to air**

| Emission point reference | Parameter | Units | Frequency[1] | Method |
|---|---|---|---|---|
| A1 & A2 | Volumetric flow rate | $m^3$/min | Biannually | USEPA Method 2 |
| | Cadmium | g/min<br>µg/$m^3$ | | USEPA Method 29 |
| | Chromium (III) | | | USEPA Method 29 |
| | Lead | | | USEPA Method 29 |
| | Nickel | | | USEPA Method 29 |
| | Oxides of Nitrogen ($NO_x$) | | | USEPA Method 7 |
| | Carbon monoxide (CO) | | | USEPA Method 10 |
| | Sulphur dioxide ($SO_2$) | | | USEPA Method 6 or B8 |
| | Polycyclic aromatic hydrocarbons (PAHs) | | | USEPA SW-846 Method 0010 |
| | Total volatile organic compounds (VOCs) | | | USEPA Method 18 |
| | Particulates ($PM^{10}$) | mg/$m^3$ | | USEPA Method 201/ AS 4323.2 |
| | Particulates ($PM^{2.5}$) | mg/$m^3$ | | USEPA Method 201/ AS 4323.2 |
| A2 | Mercury | g/min<br>µg/$m^3$ | Biannually | USEPA Method 29 |
| | Arsenic | | | USEPA Method 29 |
| | Total Chlorine | | | USEPA 26A |
| | BTEX | | | Not specified |
| | Zinc | | | Not specified |
| | Copper | | | Not specified |
| | Total Aluminium | | | Not specified |
| | Dioxins or furans | | | USEPA Method 23 |

Note 1: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.

## Monitoring of emissions to land

**27.** The Licence Holder shall undertake the monitoring in Table 11 according to the specifications in that table.

**Table 11: Monitoring of emissions to land**

| Emission point reference | Monitoring point | Parameter | Units | Frequency |
|---|---|---|---|---|
| Outlet pipes from the laboratory (L1/L4) | Buffer tank prior to discharge to holding tanks | pH | pH[1] | Monthly |
| Outlet pipes from the workshops, wash down bays, oil/ water separator (L2/L3) | Circulation exit point into the wash down bay sump | Total Recoverable Hydrocarbons (TRH) | mg/L | |

Note 1: In-situ non-NATA monitoring permitted

## Monitoring of inputs and outputs

**28.** The Licence Holder shall undertake the monitoring in Table 12 according to the specifications in that table.

**Table 12: Monitoring of inputs/outputs**

| Input | Parameter | Units | Averaging period | Frequency |
|---|---|---|---|---|
| Diesel fuel or other fuel oils | Volume | Litres (L) | Monthly | Continuous. |
| Waste accepted for incineration | Waste Type | N/A | N/A | Each load accepted at the premises |
| | Quantity | Kilograms (kg) | Monthly | |
| Waste incinerated | Waste Type | N/A | N/A | Each load disposed of to the incinerator |
| | Quantity | Kilograms (kg) | Monthly | |
| Ash removed from the incinerator | Quantity | Kilograms (kg) | Monthly | Each time the incinerator is emptied |
| Ash removed off-site | Quantity | Kilograms (kg) | Monthly | Each load removed from the premises |

## Ambient environmental quality monitoring

**29.** The Licence Holder shall undertake the monitoring in Table 13 according to the specifications in that table and record any results.

**Table 13: Monitoring of ambient air quality**

| Monitoring point reference and location | Parameter | Units[1] | Averaging period | Frequency | Method |
|---|---|---|---|---|---|
| Portable dust monitors | Dust as particulates $PM_{10}$ | $\mu g/m^3$ | Hourly | During ship loading activities | AS 3580.9.3 |

Note 1: All units are referenced to STP dry

**30.** The Licence Holder shall ensure that the siting of portable ambient air monitoring equipment is in accordance with AS 3580.1.1.

**31.** The Licence Holder shall undertake the meteorological monitoring in Table 14 according to the specifications in that table.

**Table 14: Meteorological monitoring**

| Monitoring station & location | Parameter | Units | Height (m) | Method |
|---|---|---|---|---|
| Wharf Precinct within the prescribed premises boundary shown in Schedule 1 | Wind speed | m/s | 10 | AS 3580.14 |
| | Wind direction | Degrees | 10 | |
| | Wind direction standard deviation | Degrees | 10 | |
| | Air temperature | °C | 10 | |
| | Differential air temperature | °C | 10 and 2 | |
| | Relative humidity | % | > 2 | |
| | Barometric pressure | hPa | Not specified | |
| | Rainfall | mm | > 0.3 | |

## Records and reporting

**32.** The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

**33.** The Licence Holder shall establish and maintain a materials spillage register that shall record instances of material spillage due to equipment failure and contain details such as time, date, type and volume of material spilled, as well as time and date of spillage clean-up.

**34.** The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO an Annual Audit Compliance Report in the approved form by 29 August each year.

**35.** The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 1 of this licence;

(c) monitoring programs undertaken in accordance with conditions 26, 27, 28, 29 and 31 of this licence; and

(d) complaints received under condition 32 of this licence.

**36.** The books specified under condition 35 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

**37.** The licence holder must:

(a) prepare an environmental report that provides information in accordance with Table 15 for the preceding annual period, and

(b) submit the environmental report to the CEO by 29 August each year.

**Table 15: Environmental reporting requirements**

| Condition or table (if relevant) | Requirement | Format or form[1] |
|---|---|---|
| - | Summary of project operation, any changes to site boundaries and premises map. | None specified |
| - | Summary of measures taken to suppress and manage dust emissions | None specified |
| - | Summary of performance of all stormwater features and any actions undertaken to rectify concerns identified and including management, monitoring and measurement against the performance criteria within the Stormwater Management Plan. | None specified |
| - | Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action/s taken. | None specified |
| - | Explanation of the monitoring results for all monitoring parameters | None specified |
| 11 & 12 | Summary of any management actions undertaken as a result of events listed in Table 5. | None specified |
| 1 (4.b) | Confirmation of sulphur content of fuels used in rotary dryer/s. | None specified |
| 1 (4.c) | Summary of baghouse pressure monitor failures and action/s taken. | None specified |
| 24 | Summary of annual equipment calibration | None specified |
| 26 | Monitoring of point source emissions to air | None specified |
| 27 | Monitoring emissions to land | LR1 |
| 28 | Summary of monthly inputs/outputs, including a summary on the incineration efficiency for different waste types | None specified |
| 29 | Monitoring of ambient air quality | AR1 |
| 31 | Summary of meteorological monitoring | None specified |
| 34 | Compliance | None specified |
| 32 | Complaints summary | None specified |

| | | |
|---|---|---|
| 33 | Spillage summary | None specified |
| 38 | Summary of limit exceedances | None specified |

Note 1: Forms are in Schedule 2

## Notification

**38.** The Licence Holder shall ensure that the parameters listed in Table 16 are notified to the CEO in accordance with the notification requirements of the table.

**Table 16: Notification requirements**

| Condition or table (if relevant) | Parameter | Notification requirement[1] | Format or form[2] |
|---|---|---|---|
| - | Breach of any limit specified in the Licence | Part A: As soon as practicable but no later than 5pm of the next working day<br>Part B: As soon as practicable | N1 |
| 16 | Commencement of burning high sulphur fuel | Within 7 days of commencement of burning fuel with sulphur content above 1.5% m/m. | None specified |

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the act

# Definitions

In this licence, the terms in Table 17 have the meanings defined.

**Table 17: Definitions**

| Term | Definition |
|---|---|
| ACN | Australian Company Number |
| air quality professional | means a person who:<br>a) holds a Bachelor of Science qualification, or an Air Quality Science-related tertiary level qualification; or<br>b) has a minimum of at least 5 years' experience working in the field of air quality monitoring and assessment. |
| Annual Audit Compliance Report (AACR) | means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website). |
| annual period | a 12 month period commencing from 1 July until 30 June of the immediately following year. |
| ARI | means Average Recurrence Interval, defined by the Bureau of Meteorology as *"the average, or expected, value of the periods between exceedances of a given rainfall total accumulated over a given duration."* |
| AS 3580.1.1 | means the Australian Standard AS/NZS 3580.1.1.2007 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment*; |
| AS 3580.9.3 | means the Australian Standard AS 3580.9.3 *Determination of total suspended particulates (TSP) - High volume sampler gravimetric method;* |
| AS 3580.9.6 | means the Australian Standard AS 3580.9.6 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - $PM_{IO}$ high volume sampler with size - selective inlet – Gravimetric method;* |
| AS 3580.9.8 | means the Australian Standard AS 3580.9.8 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - $PM_{IO}$ continuous direct mass method using tapered element oscillating microbalance analyser;* |
| AS 3580.14 | means the Australian Standard AS 3580.14 *Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications;* |
| AS 4323.1 | means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions;* |

| Term | Definition |
|---|---|
| AS/NZS 5667.1 | means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;* |
| AS/NZS 667.10 | means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters;* |
| biannually | means twice a year, with at least 4 months between monitoring events. |
| books | has the same meaning given to that term under the EP Act. |
| CEO | means Chief Executive Officer of the Department.<br>"submit to / notify the CEO" (or similar), means either:<br>Director General<br>Department administering the *Environmental Protection Act 1986*<br>Locked Bag 10<br>Joondalup DC WA 6919<br>or:<br>info@dwer.wa.gov.au |
| Department | means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3. |
| discharge | has the same meaning given to that term under the EP Act. |
| emission | has the same meaning given to that term under the EP Act. |
| Environmental Management Plan | means the current version of the Christmas Island Phosphates (CIP) Environmental Management Plan as submitted to the Minister for Territories. |
| Fugitive emissions | means all emissions not arising from point sources identified in conditions 17 and 18. |
| EP Act | *Environmental Protection Act 1986* (WA) |
| EP Regulations | *Environmental Protection Regulations 1987* (WA) |
| licence | refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within. |
| licence holder | refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted. |
| NATA | means the National Association of Testing Authorities, Australia; |
| NATA | means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis; |

| Term | Definition |
|---|---|
| accredited | |
| NEPM | means the *National Environment Protection (Ambient Air Quality) Measure* |
| Normal operating conditions | means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring; |
| PM | means total particulate matter including both solid fragments of material and miniscule droplets of liquid; |
| $PM_{10}$ | means particles with an aerodynamic diameter of less or equal to 10 μm; |
| Polyvinyl chloride products | means synthetic plastic polymer products also known as PVC; |
| premises | refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence. |
| prescribed premises | has the same meaning given to that term under the EP Act. |
| waste | has the same meaning given to that term under the EP Act. |
| Schedule 1 | means Schedule 1 of this Licence unless otherwise stated; |
| Schedule 2 | means Schedule 2 of this Licence unless otherwise stated |
| shut-down | means the period when plant or equipment is brought from normal operating conditions to inactivity; |
| spot sample | means a discrete sample representative at the time and place at which the sample is taken; |
| stack test | means a discrete set of samples taken over a representative period at normal operating conditions; |
| start-up | means the period when plant or equipment is brought from inactivity to normal operating conditions; |
| USEPA | means United States (of America) Environmental Protection Agency; |
| waste cake | means waste solids generated from the hydrocarbon recycling process (separation/filtration) undertaken by Indian Ocean Oil Company (W5975/2016/1) under Category 39 for the premises; |

**END OF CONDITIONS**

# Schedule 1: Maps

## Premises map

**The boundary of the prescribed premises is shown in the map below.**


.

**Figure 1: Premises Map (premises boundary outlined in red)**

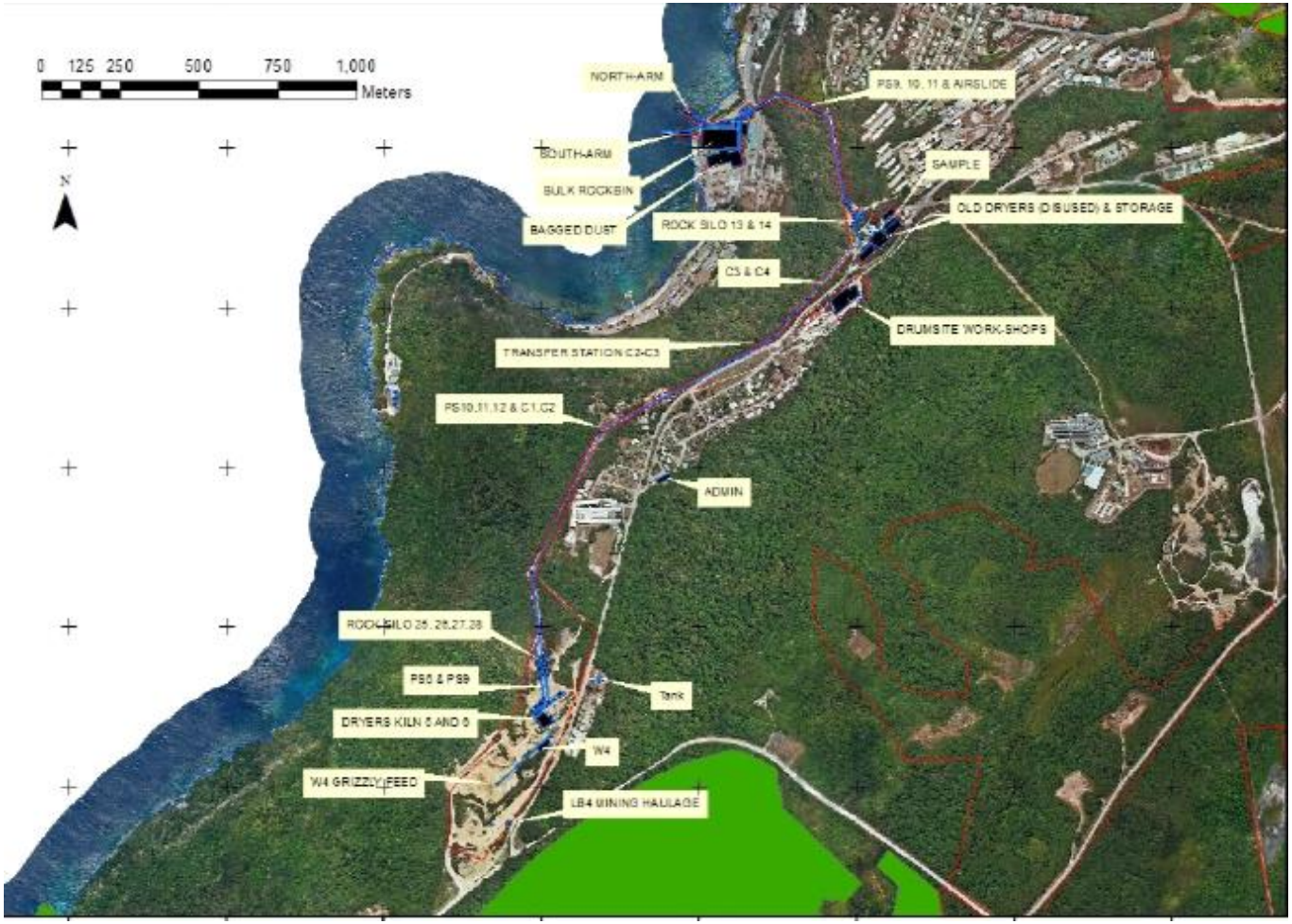



**Figure 2: Premises Map**

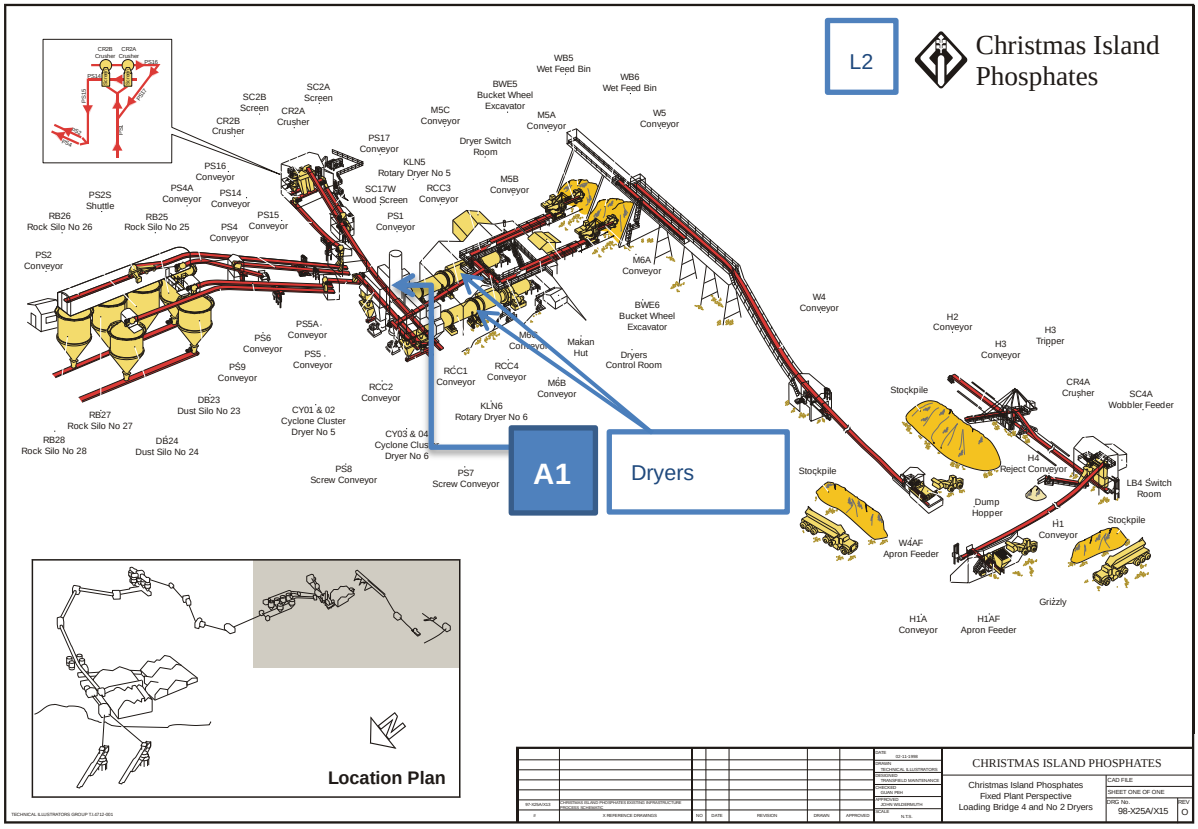



**Figure 3: Map of Premises process and emission points**

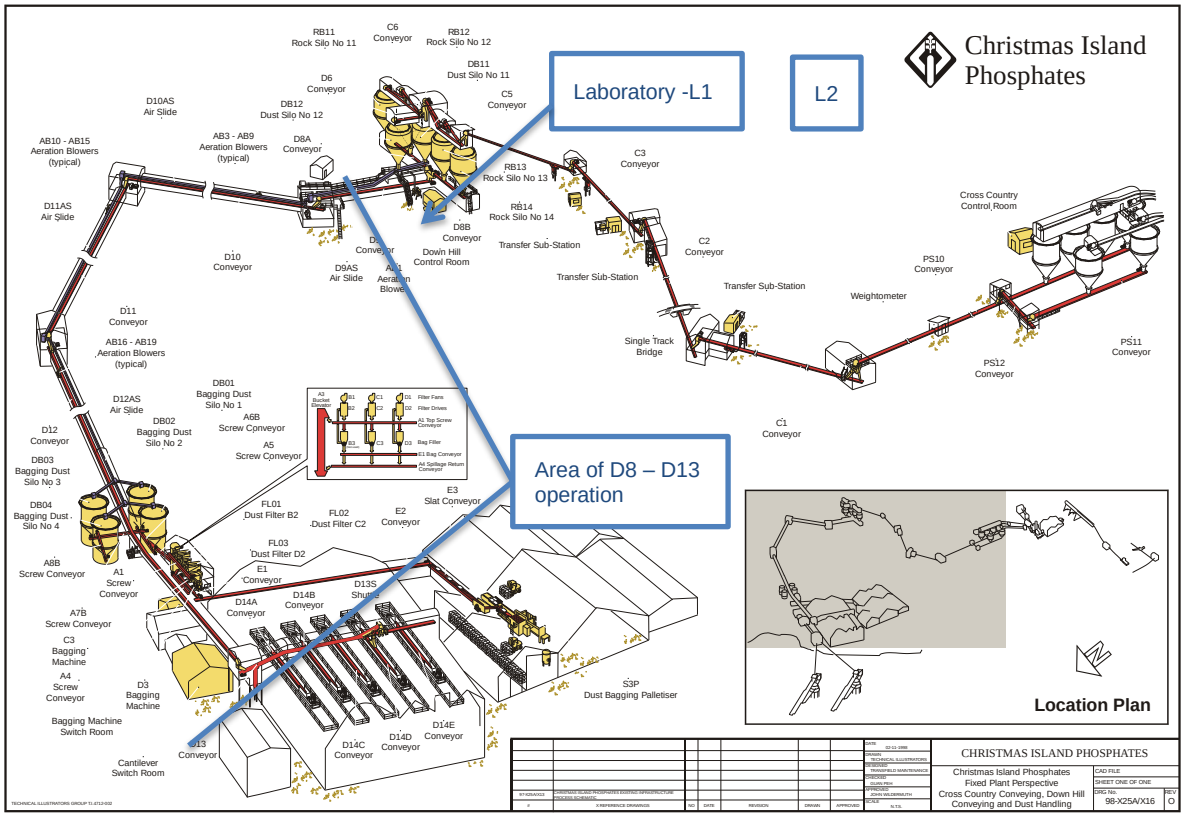



**Figure 4: Map of Premises process: conveyer and laboratory locations**

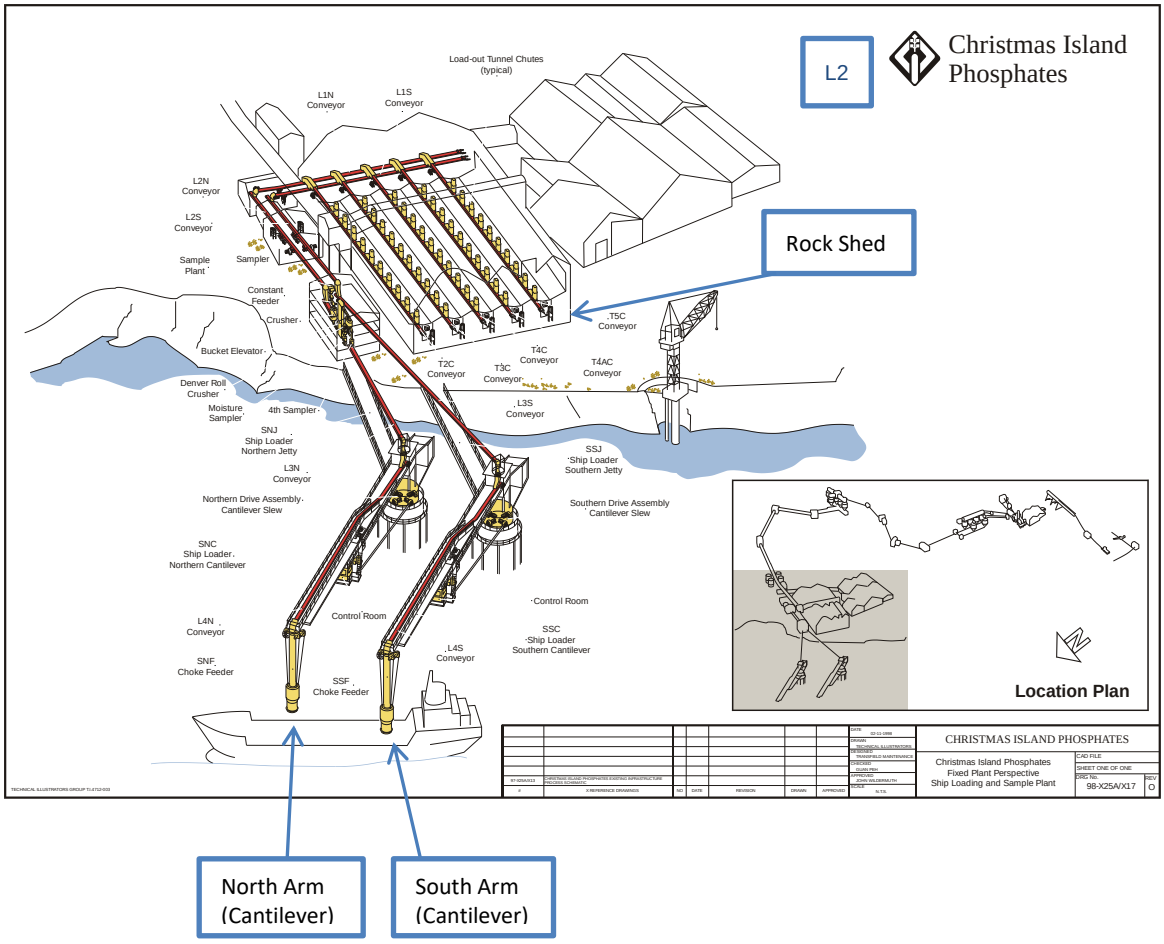



**Figure 5: Map of premise process: cantilever arms and rock shed**

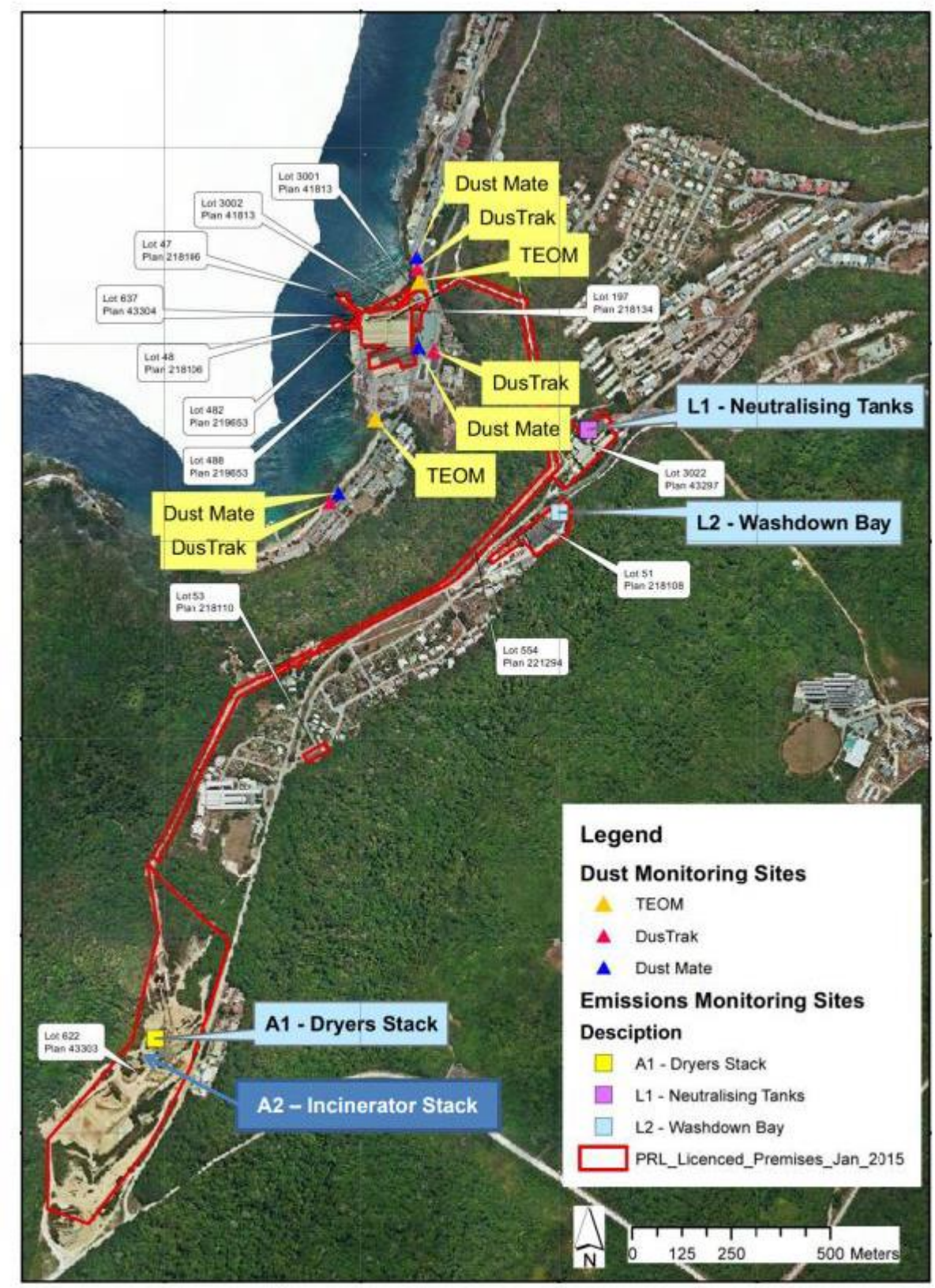
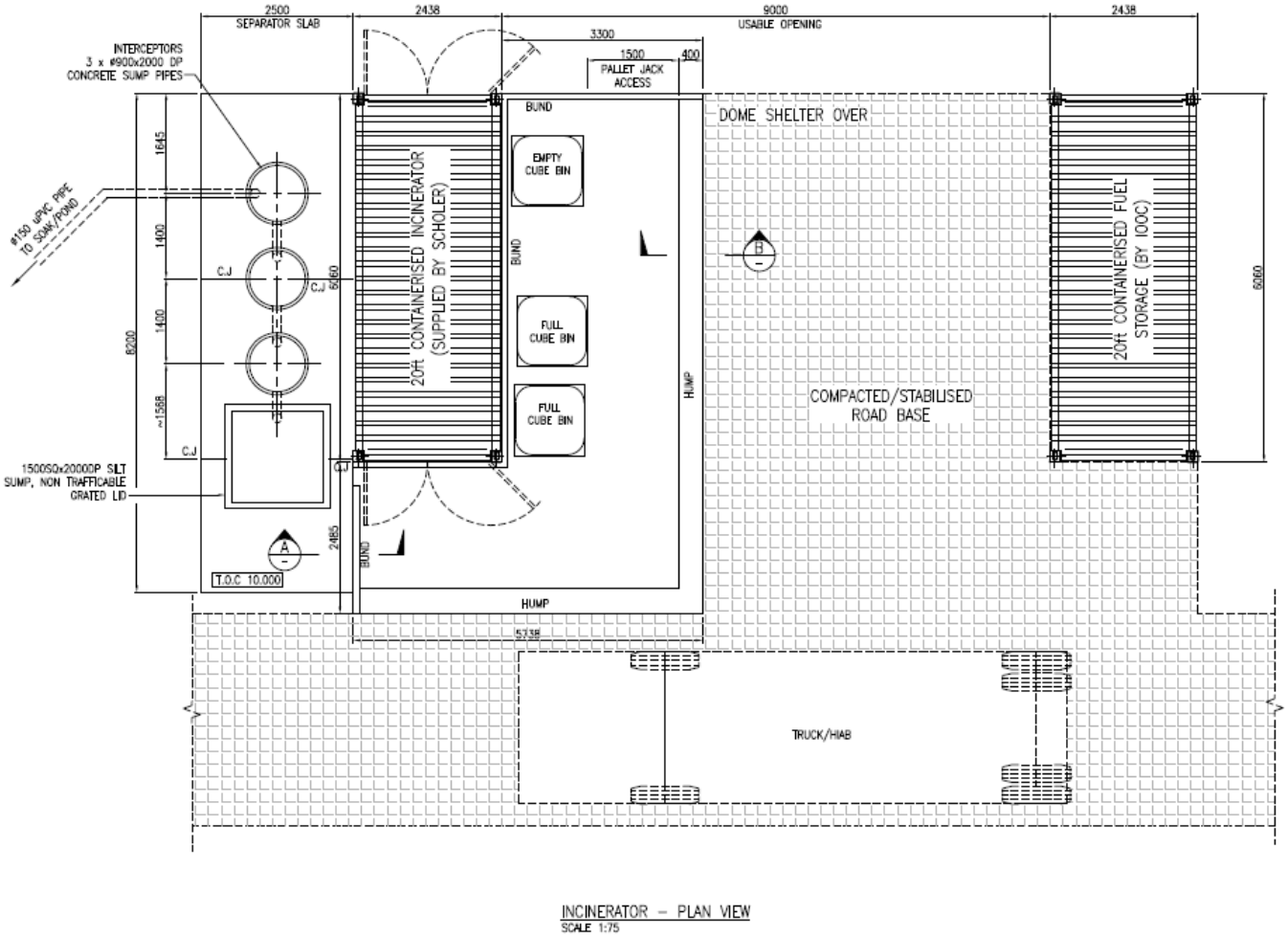



**Figure 6: Map of monitoring points**



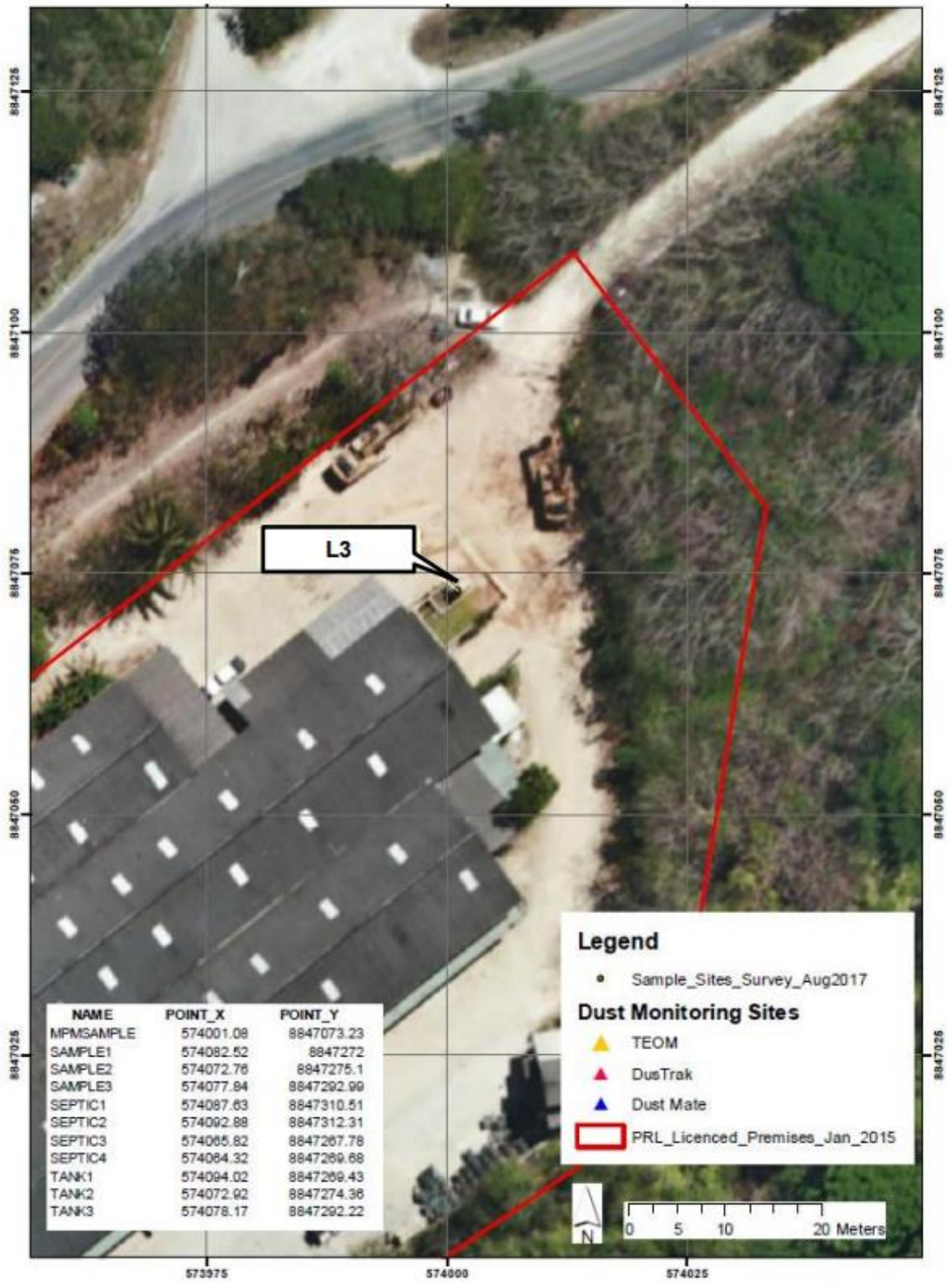

INCINERATOR – PLAN VIEW
SCALE 1:75

**Figure 7: Map of incinerator layout**


**Figure 8: Map of incinerator location**


| NAME | POINT_X | POINT_Y |
|---|---|---|
| MPMSAMPLE | 574001.08 | 8847073.23 |
| SAMPLE1 | 574082.52 | 8847272 |
| SAMPLE2 | 574072.76 | 8847275.1 |
| SAMPLE3 | 574077.84 | 8847292.99 |
| SEPTIC1 | 574087.63 | 8847310.51 |
| SEPTIC2 | 574092.88 | 8847312.31 |
| SEPTIC3 | 574065.82 | 8847267.78 |
| SEPTIC4 | 574064.32 | 8847269.68 |
| TANK1 | 574094.02 | 8847269.43 |
| TANK2 | 574072.92 | 8847274.36 |
| TANK3 | 574078.17 | 8847292.22 |

**Figure 9: Map of emission point (L4) to land from laboratory**




| NAME | POINT_X | POINT_Y |
|---|---|---|
| MPMSAMPLE | 574001.08 | 8847073.23 |
| SAMPLE1 | 574082.52 | 8847272 |
| SAMPLE2 | 574072.76 | 8847275.1 |
| SAMPLE3 | 574077.84 | 8847292.99 |
| SEPTIC1 | 574087.63 | 8847310.51 |
| SEPTIC2 | 574092.88 | 8847312.31 |
| SEPTIC3 | 574065.82 | 8847267.78 |
| SEPTIC4 | 574084.32 | 8847269.68 |
| TANK1 | 574094.02 | 8847269.43 |
| TANK2 | 574072.92 | 8847274.36 |
| TANK3 | 574078.17 | 8847292.22 |

**Figure 10: Map of emission points to land from the workshop wash down bay area**

# Schedule 2: Notifications

Licence: L8846/2014/1 Licence Holder: Phosphate Resources Ltd.

Form: N1 Date of breach:

**Notification of detection of the breach of a limit.**

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

## Part A

| | |
|---|---|
| Licence Number | |
| Name of operator | |
| Location of Premises | |
| Time and date of the detection | |

| **Notification requirements for the breach of a limit** | |
|---|---|
| Emission point reference/ source | |
| Parameter(s) | |
| Limit | |
| Measured value | |
| Date and time of monitoring | |
| Measures taken, or intended to be taken, to stop the emission | |

## Part B

| | |
|---|---|
| Any more accurate information on the matters for notification under Part A. | |
| Measures taken, or intended to be taken, to prevent a recurrence of the incident. | |
| Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission. | |
| The dates of any previous N1 notifications for the Premises in the preceding 24 months. | |

| | |
|---|---|
| Name | |
| Post | |
| Signature on behalf of Phosphate Resources Ltd. | |
| Date | |